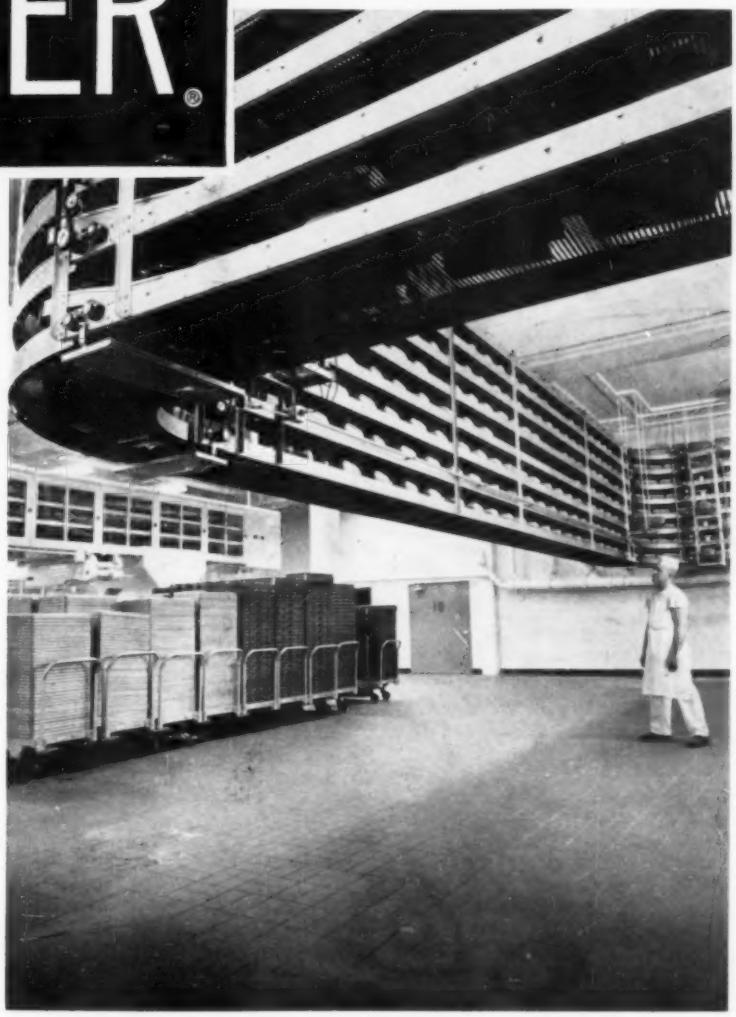
the NORTHWESTERN MILLER®

THE INTERNATIONAL MAGAZINE
FOR THE GRAIN, MILLING
AND BAKING INDUSTRIES



INSIDE YOU'LL FIND . . .

Excess Capacity Study (Part IX)

•

Where Is U.S. Headed On Commodity Agreements?

•

Sedimentation Testing For Wheat Quality

•

A Doughnut Operation Is Mechanized

a miller publication • business journalists since 1873

Volume 265 JULY 10, 1961 Number 14

Stone Ground

Capture the "old world" romance of the grist mill and the hearty flavor of country kitchen bread—with Stone Ground Whole Wheat Flour.

Here's a real profit and merchandising opportunity for you! Order Stone Ground today and ask your International representative for free merchandising materials.

BAKERY PROVED FLOUR

International
MILLING COMPANY
GENERAL OFFICES: MINNEAPOLIS 2, MINNESOTA

"Bakery Proved" ®

*Trade Mark

OPENING

How fast can you swing your arm?

That's how fast you can open a Bemis Multiwall with Bemi-Strip closure. Just grab the red tab and pull. The bag opens quickly, easily.

A tight seal . . . yet a fast, economical opening that leaves the bag intact.

No fumbling for thread ends. No cutting. No stuck closure seams. And no paper shreds or thread clippings, so . . . assured cleanliness.

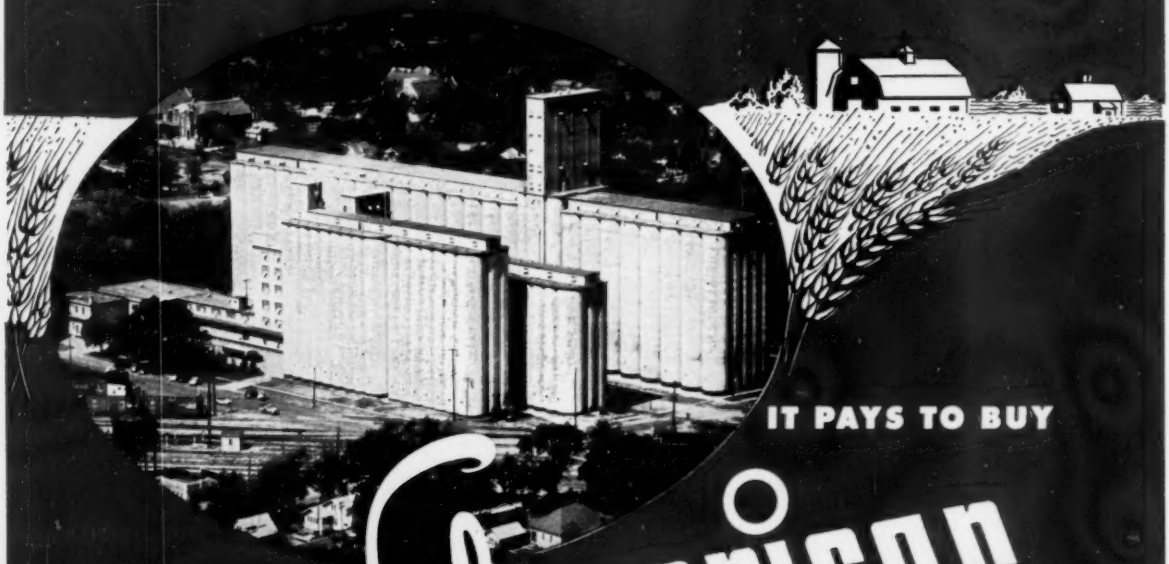
Note: Production machinery to manufacture the Bemi-Strip feature is being installed in Bemis plants as rapidly as possible, but the feature is not yet available on the West Coast or in parts of eastern United States. The feature will be available nationally in just a few months. Ask your Bemis man for complete information.

BEMIS BAG CO.

where packaging ideas are born

General Offices—408-N Pine St., St. Louis 2 • Sales Offices in Principal Cities

From the Heart of the Wheat Belt



IT PAYS TO BUY

American Flours

Reserves are always needed, whether it be cash in the bank for a "rainy day," or a large elevator capacity where top quality wheats, as available, may be stored for future use as needed. At American Flours, we are blessed with storage space that amounts to more than one and a half times our annual milling needs. That's one reason it pays to buy AMERICAN.

AMERICAN FLOURS COMPANY
NEWTON, KANSAS

Mill Capacity 3,000 Sacks Daily • Grain Storage 6,000,000 Bushels

the NORTHWESTERN MILLER®

Published Every Other Week for the Grain, Flour and Baking Industries

GEORGE E. SWARBRECK
Editor

Ken W. Wakershauser
Managing Editor

EDITORIAL STAFF—John Cipperly, Washington Correspondent; F. C. Bisson, Chicago Correspondent; James S. Barden, Marketing and Research Director; A. J. Vander Voort, Technical Baking Editor.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; George W. Potts, Advertising Sales Manager; Carl R. Vetter, Advertising Department Manager; Bruce A. Kirkpatrick, Advertising Production Manager; Jerome C. Whiting, Assistant Advertising Production Manager; R. Dale Swenson, Promotion Manager.

BUSINESS STAFF—Milton B. Kihlstrum, President; Wilfred E. Lingren, Executive Vice President; Don E. Rogers, Vice President; Paul L. Dittemore, Vice President; Donald Neth, Secretary; Norman Couper, Treasurer and Controller; Harry M. Dunn, Jr., Circulation Fulfillment Manager; James G. Pattridge, Assistant Treasurer; Richard Ostlund, Office Manager; Walter O. Buchkosky, Production Superintendent.

ADVERTISING REPRESENTATIVES

EASTERN STATES—Paul L. Dittemore, Manager; James W. Miller and Archy S. Booker, Advertising Sales Representatives; Room 1101, 52 Vanderbilt Ave., New York 17, N.Y. (Tel. ORegon 9-2498).

CENTRAL STATES — Don E. Rogers, Manager; Robert M. Harrison and Amos W. Standish, Advertising Sales Representatives; 2832 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. HArrison 7-0515).

SOUTHWEST — Martin E. Newell, Manager; Thomas E. Latch, Assistant Manager; 612 Board of Trade Bldg., Kansas City 5, Mo. (Tel. Victor 2-1350).

WASHINGTON CORRESPONDENT — John Cipperly, 604 Hibbs Bldg., Washington, D.C. (Tel. REpublic 7-8534).

EXECUTIVE AND EDITORIAL OFFICES — 2501 Wayzata Blvd., Minneapolis, Minn.; Tel. FRanklin 4-5200; Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D.C. (WA 82).

SUBSCRIPTION RATES — One year $4, two years $7, in U.S.A. or U.S. possessions, Canada and Pan-America. Add $3 a year for postage to other countries. Single copy 50c. Second-class postage paid at Minneapolis, Minn.

Published by
THE MILLER PUBLISHING CO.
2501 Wayzata Blvd., Minneapolis, Minn.
(Address Mail to P. O. Box 67, Minneapolis 40, Minn.)

July 10, 1961

CONTENTS

EDITORIAL OPINION 7
The Farmers — and the Bakers — Want a Raise • First Anniversary of the New MILLER

EXCESS CAPACITY STUDY (Part IX) 17
Dr. Markwalder covers size and location of flour milling plants, discusses transportation

FUMIGANTS ARE VERSATILE 22
Knowing what each can do will facilitate selection

SPOTLIGHT ON WASHINGTON 26
Where is the U.S. headed on commodity agreements?

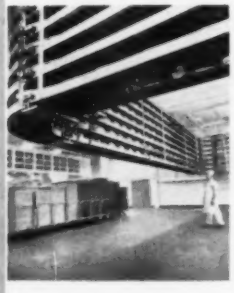
SEDIMENTATION TEST 28
A non-technical explanation of wheat strength measurement by Dr. Lawrence Zeleny

MECHANIZED DOUGHNUT OPERATION 46
How Strick's at Spokane has modernized its production line to make a good doughnut better

CANADIAN COMMENTARY 58
Round-up of news from the Canadian scene

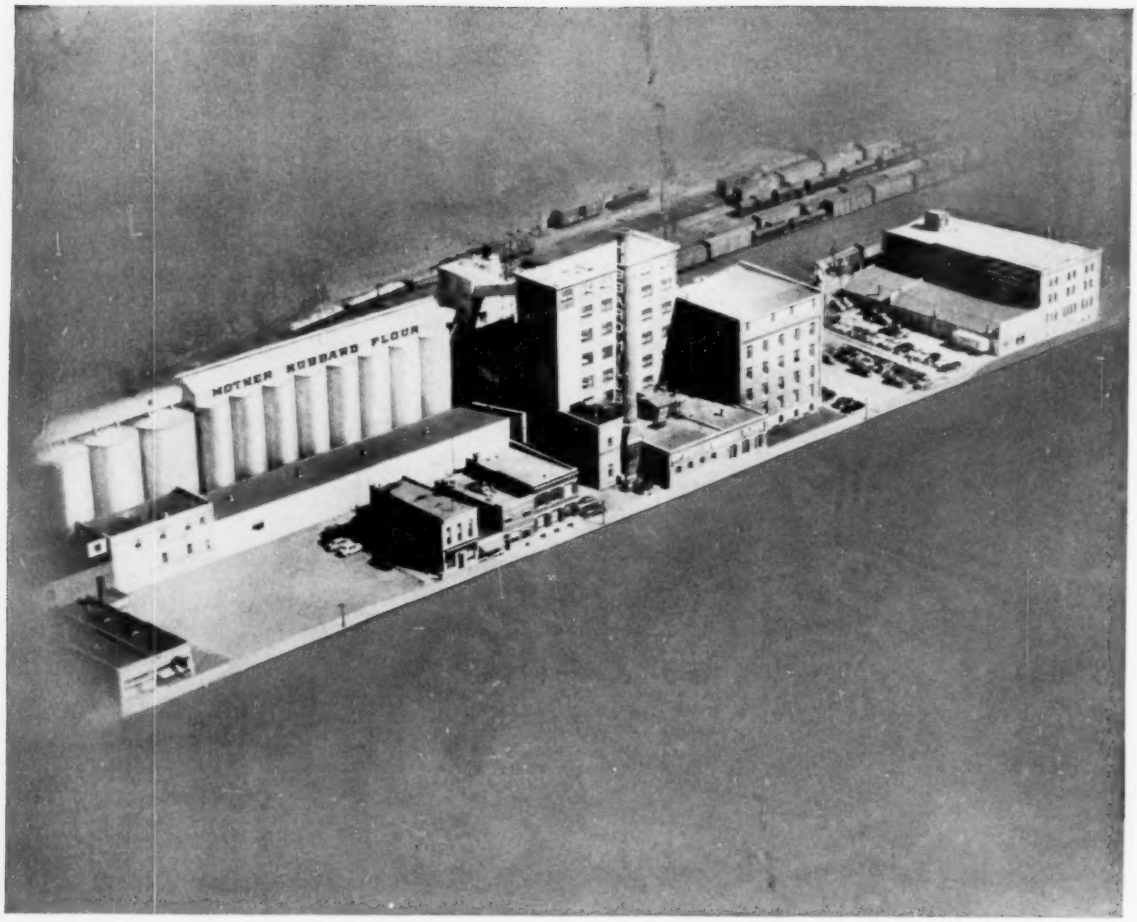
MILLER REGULARS—

Industry Record 8
Names Making News 12
Where They Are Meeting 34
Years Ago from THE MILLER's Files 36
Bakery Trouble Shooter 38
About People 44
New Ideas, Products, Services 48
Flour Production Statistics 54
Ticker Report 56
Market Quotations 61
Index of Advertisers 62
Grist of Grins 62



COVER PICTURE—

Pan-O-Gold Baking Co. at Pipestone, Minn., has put its best foot forward into a program of modernization capable of making any firm interested in a similar move sit up and take notice. The overhead bread cooling system pictured, eight levels high, is just one part of the plan. For complete story turn to Page 10.



KING HUBBARD

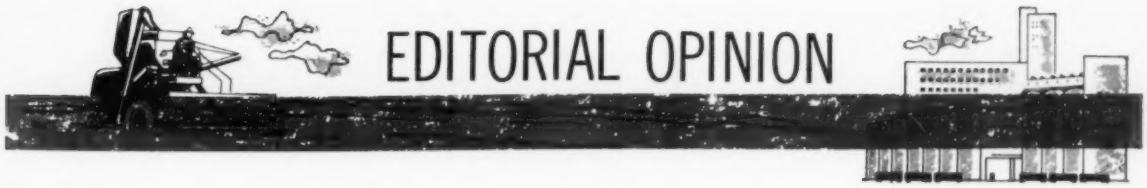
THE MONARCH OF HIGH GLUTEN WHEAT FLOUR

"Hubbard—the Hallmark of Quality"

HUBBARD MILLING CO.

MANKATO, MINN.

Quality Since 1879



The Farmers—and the Bakers—Want a Raise

THERE IS NO DESIRE in the baking industry—or in the grain merchandising or flour milling industries for that matter—to deny the wheat farmer the right to a fair return for his investment in capital and labor. An influential body of trade opinion firmly believes that the farmer should receive a greater cash return though that same opinion considers the government's proposed means to achieve that end gravely in error.

Raises have been commonplace for workers in other industries over the past few years as wages strove to keep pace with inflation and the constant devaluation of the dollar in terms of purchasing power. The factory worker, the trucker, the civil servant, the grocery clerk, even the employees in the bakery itself, have fatter pay checks.

If, then, they have had raises, why not the farmer? To answer that question, some government eyes have turned in the direction of the farmers' biggest single cash customer, the baker. The annual bill for raw materials used in the production of baked foods comes to more than $2 billion. For wheat alone, the baker pays out $700 million annually, absorbing at least a third of the crop. He pays another $250 million for fats and oils. Many other agricultural products go into the bakeshop to emerge as baked foods.

But before the baker can think of contributing towards a raise for the farmers, he needs to get one for himself. Today, the baking industry is receiving a smaller part of the consumer's dollar, as net profit, than ever before. And the chief sufferers are the people who provide the capital. Dividends are being slashed or passed all down the line. That adds up to unhealthy economics.

To be in a position to give the farmer a raise, in the form of higher prices for the commodities he produces, the baker himself must raise his take. Or reduce his production and distribution costs.

The bakers are fully aware of this. But how to solve the problem is a major headache. George N. Graf, peppy general manager of Quality Bakers of America Cooperative, Inc., has been preaching the gospel of more efficient distribution at less cost for a long time now. But the problem is no where near being solved. If it could be solved, then perhaps the farmers' equilibrium in the wage picture could be restored without governmental or taxpayer help.

Don F. Copell, newly appointed president of the W. E. Long Co., put it bluntly when he addressed the annual general managers' conference of his organization last month. He said there is too much bitter competition in the industry today. At the same time, the cost of doing business is spiralling with the consequent result that profits are being squeezed between the hungry jaws of competition and the sharp teeth of rising costs.

He considers it essential that management subject itself to personal critical examination because every organization is but the lengthened shadow of the man in the front office. As he does, so does his organization. Both efficiencies and laxities are reflected to the lowest man in the bakery.

Mr. Copell hit a shirt-tearing nail firmly on the head when he declared that where there are no profits, there can be no job security for anyone. Realizing that, when things get tough, the tough get going.

The time has surely come for the bakers to get tough in solving the manifold problems that beset them. «

First Anniversary of the New MILLER

THIS ISSUE MARKS the first anniversary of the new and revitalized Northwestern MILLER. Acceptance by readers and advertisers alike has been most encouraging. No longer is it the **new** MILLER and the traditions of the past have been assimilated by the successor.

We recall that when making the initial announcement of the drastic changes in format and concept, we had this to say: "It is essential that grain men, millers—management and operative—cereal chemists and bakers know something of each other's problems, be they in the field of business, government or laboratory. Knowledge is the background of business success."

Readers of THE MILLER have found within the covers of the past 26 issues a rendition of some of those problems and have been aided in the task of assessing the other man's difficulties whether they be in the areas of producing or pricing. Only a few days ago, in a letter to the Editor on a matter of industry interest, E. E. Kelley, Jr., distinguished president of the American Bakers Assn., made this statement: "I believe we are all realizing that the bakers and the millers have more in common than perhaps some of us thought in years gone by."

It could not have been put better. And it is that common interest THE MILLER has endeavored to underline in the past 12 months. Never was it more effectively illustrated than by the closing of the miller-baker ranks after Orville L. Freeman, secretary of agriculture, made his unwarranted attack on the baking industry at the time of the dedication of the new facilities at Kansas State University last May.

While we are convinced that Mr. Freeman's heart is in the right place, we are equally convinced that his seat, in the Kennedy cabinet, is not.

All has not been sweetness and light. It would be a dull and boring publication indeed if all our readers, wherever they may live and work, agreed with everything our writers had to say. Better it is to be criticized than ignored and there is no evidence that THE MILLER is being ignored by its wide readership among grain people, flour millers — the world over — and among the large commercial bakers. Nor among the people in Washington, D.C.

To paraphrase a recent thought provoking declaration by President Kennedy, there can be no progress without turmoil. We like to be liked, but never will THE MILLER sacrifice principles or convictions for the sake of being well-liked, particularly by such politicians as Mr. Freeman and his ilk. «

INDUSTRY RECORD . . .
An account of Trade Affairs and Events

United States:

General Mills, Inc., announcing preliminary results for last fiscal year ended May 31, 1961, reports net earnings of around $12.8 million, up 11.2% from previous year. Earnings represent $1.63 a share against $1.46 a share in 1959-60. Sales at $575.5 million were at all-time high. Grocery products division made noteworthy contribution. Costs were pushed upward by inflation, and continued keen competition kept profits from reaching higher levels originally hoped for. Weak millfeed prices in March, April, following announcement of government's feed grain program, also had adverse effect. Dividends of $1.20 a share were paid on company's common stock, policy followed throughout GMI's 33-year history, during which period it has earned and paid regular common stock dividends without reduction.

●

Charles W. Carleton To Head Pillsbury's Subsidiary in Paris

Charles W. Carleton has been appointed managing director of Pillsbury A. G., with headquarters in Paris, according to Paul S. Gerot, president. Pillsbury A. G. is the subsidiary through which operations of the company in Europe are conducted.

Mr. Carleton was graduated from Dartmouth College, Andover, N.H., and received a master's degree in business administration from the Amos Tuck School of Business Administration at Harvard University. He joined Pillsbury as a grain sampler in 1940. Following five years in the Navy during World War II, he joined Pillsbury's new products department and later transferred to the overseas division, where he was promoted to assistant manager.

In 1953 Mr. Carleton joined the headquarters staff of the bakery products division, was subsequently appointed manager of food operations planning in the grocery products division, and in 1956 was named director of business development, the position he held until his present assignment. «

K-State Receives Research Grant

Agricultural Research Service of U.S. Department of Agriculture has granted Kansas State University, Manhattan, $44,200 to study development, release of enzymes during wheat germination. **Dr. John A. Johnson, Dr. Byron S. Miller** and **James Fleming**, K-State's Department of Flour and Feed Milling Industries, will work under the grant, studying various chemical treatments designed to release organic catalysts normally found only when grain sprouts. Recently, the K-State scientists have shown that such substances as Gibberellic acid can increase greatly enzyme content of germinated wheat. Small amounts of enzymatic active wheats can be used to improve bread quality. The grant will help support a three-year study.

●

Garvey Appoints Chicago Manager

Garvey Grain, Inc., which recently announced purchase of Norris Grain Co.'s Chicago elevator (THE MILLER, June 26, page 9) has appointed **C. William Swaby** as company manager in Chicago. Member of Chicago Board of Trade since 1949, Mr. Swaby was with Rice Grain Corp. five and one-half years, prior to that was with Uhlmann Grain Co. as merchandiser, heading that firm's Illinois division. Earlier, Mr. Swaby operated his own country elevators near Jacksonville, Ill. Other Garvey operation is an elevator in Wichita, with total storage of 43 million bushels, managed by **John H. Johntz**.

C. W. Swaby

●

Lincoln-K.C. Grain Takes Over Elevator

Lincoln-K.C. Grain Co., division of Lincoln Grain, Inc., taking over operation of Chicago, Burlington & Quincy Railroad elevator in North Kansas City, Mo., facility with 2.5 million bushels storage space. To be operated as Burlington elevator, facility and company's Kansas City operations to be managed by **W. Lowell Gordon**, headquartering in Kansas City Board of Trade building. Mr. Gordon was manager of Atchison, Kansas, elevator of C-G-F Grain Co., Inc., from September of 1958. Previously he was grain merchandiser with Bartlett & Co., and prior to that comptroller and merchandiser with Bates Grain Co. Elevator was operated under lease since 1936 by Norris Grain Co., and earlier owned, operated by Farmers National Grain Corp. Successor to Mr. Gordon at Atchison elevator will be **Gary W. McKinney**, who has been in grain business 14 years, all of it with Checkerboard Grain Co. division of Ralston Purina Co. Mr. McKinney has spent past three years in Checkerboard office at St. Louis, earlier was in Kansas City.

Gary McKinney

●

Norris Firm Begins Expansion Program

Norris Grain Co., close on heels of sale of properties in Chicago to Garvey Grain Co. and transfer of leasehold on elevator at Kansas City, has announced expansion program, purchases, overshadowing space relinquished. Program includes new construction at Chicago and Kansas City, plus outright purchase and leasing of additional warehouse space in other areas, reports **Bruce A. Norris**, president. Plans at Chicago call for addition of 2 million bushels of tank space to Norris' Calumet elevator, boosting capacity to more than 4.75 million bushels. At Kansas City, Norris now adding 1 million bushels of space to Kansas City Southern Railway elevator, giving facility approximately same capacity as Calumet plant at Chicago. Norris elevator at Kansas City holds over 4 million bushels. Supplementing terminal grain warehouse space at Chicago and Kansas City, company

has either bought outright or leased total of 9.5 million bushels of space at eight separate locations in heart of Southwest grain area. Norris has operated terminal elevators many years at Omaha, St. Louis, Memphis, Peoria and Buffalo in U.S. and in Winnipeg. Firm also operates commercial feed mills at five points in Missouri.

●

Grain Merchants Opens Kansas City Office

Ralph J. Crawford, executive vice president of Grain Merchants, Inc., has moved his offices from Wichita to Kansas City, in conjunction with company's establishment of Kansas City headquarters. Also moving to Kansas City is **Phillip M. Corby**, traffic manager. New offices at 734-5 Board of Trade, will also provide space for **Luke J. Byrne** and **Kirk Hartnett**, now operating the firm's commission office. **Mrs. Olive W. Garvey**, president of Grain Merchants, Inc., continues her headquarters in Wichita. Also remaining in Wichita are **C. B. Felts, Jr.**, secretary-treasurer; **J. W. Whitacre**, responsible for laboratory testing, and **Henry Dock**, director of quality control and safety.

●

GMI Directors Declare Dividend

Board of directors of General Mills, Inc., has declared dividend of 30¢ a share on common stock, payable Aug. 1, 1961 to stockholders of record on July 10, 1961, 132nd consecutive quarterly dividend on company's common stock.

●

25-Year Club of Fisher Flouring Meets

The 25-Year Club of Fisher Flouring Mills Co., Seattle, held its annual dinner meeting recently—and there was a 50th anniversary cake for each member to take home. Fisher firm observed its 50th anniversary in June, and "golden" theme was carried out in appointments for the dinner. Among those receiving special recognition were **Daniel R. Fisher** and **J. S. Davis**, vice presidents, for completing 50 years of service during the current golden anniversary year. Both were presented special pins by **O. D. Fisher**, chairman of the board and co-founder of the mill in 1910.

●

William Walmsley Scholarship Awarded

Harry R. White, Gresham, Ore., baker with more than 13 years of production experience, awarded William Walmsley Scholarship for study in Class No. 80, American Institute School of Baking, which begins 20-week course July 31 in Chicago. Mr. White has been with Marckx Bakery, Inc., in Gresham since 1948, is specially trained in cake decorating. Full tuition scholarship also awarded **James V. Pastore**, El Cajon, Cal., in baking since 1954.

●

MNF Moves Washington Office

Washington office of Millers National Federation has moved from Suite 847 to 752, National Press Bldg., 1346 F. St. N.W., Washington 4, D.C.

●

Cookie, Cracker Bakeries Purchased

National Phoenix Industries, Inc., has purchased Gilt Edge Bakery Co., Cincinnati, and Miller Parrot Bakery Co., Terre Haute, Ind., as move to expand in cracker, cookie field. Purchases made through American Shopping Centers, Inc., of which National Phoenix owns 70% of the common stock. Gilt Edge had 1960 sales of over $6 million; Miller Parrot sales of more than $6,250,000. National Phoenix, which also owns Banner Biscuit Co., Carrollton, Mo., says other acquisitions in bakery field contemplated.

●

Continental Announces Baking Scholarships

Continental Baking Co. has increased number of annual four-year baking scholarships at Florida State University from four to six, according to **R. Newton Laughlin**, president. All are sons of Continental employees. Scholarships go to: **Dennis J. Berry**, Cincinnati; **Daniel C. Goldman**, Hot Springs, Ark.; **Michael W. Marshall**, Oakland, Cal.; **Robert Martinelly**, Red Bank, N.J.; **William C. Petersen**, Downey, Cal., and **Kenneth Windt**, Clifton, N.J.

●

Stone Ground Flour Offered by Pillsbury

Pillsbury Co. has added stone ground whole wheat to its bakery flour product line. Flour is made from 100% selected spring wheat ground on stones at company's Minneapolis "A" mill to preserve natural whole wheat flavor. New product is well suited to production of "old fashioned" whole wheat bread, rolls, blended wheat breads, may be substituted in any whole wheat formula without adjustment, say Pillsbury officials. Stone ground flour being packed in 100 lb. branded bags, initially available in two granulations, fine and coarse.

●

Honduras:

Inter-American Development Bank, Washington, has approved $150,000 loan to help Molinos de Honduras, S. de R. L., build modern corn flour mill about a mile from business center of San Pedro Sula, second largest city in Honduras. Mill to have capacity of 40 tons of corn flour daily, or about 11,200 tons yearly. Loan, to be made from bank's ordinary resources, will cover 44.5% of dollar cost of purchase and installation of the mill. «

REPRESENTATIVES OF the Wheat Flour Institute, Chicago, are brushing up on the latest developments in milling. As part of a tour of Minneapolis-based milling firms, Miss Margot Copeland and the institute's director, Howard Lampman, were given a tour of International Milling Co.'s "B" Mill in St. Paul by Loyd Wall, head miller, at the right.

COVER STORY

New Pan-O-Gold Baking Plant Shining Example of Independent Firm Looking Ahead to Expansion

By KEN. W. WAKERSHAUSER

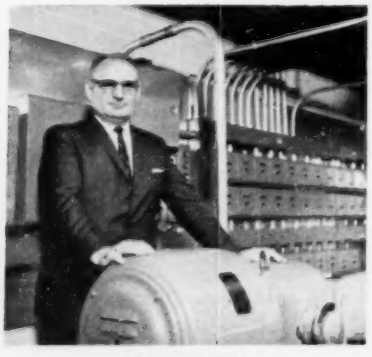
THE PAN-O-GOLD Baking Co. at Pipestone, Minn., now automated from one end of its plant to the other, is a striking example of an independent firm pointed in a single direction —that of meeting today's fierce, competitive challenge.

Furthermore, Pan-O-Gold's management plans to raise production capacity about 200% over the conventional baking system in use prior to its current modernization. And that same management is making every effort to push its 1961 sales volume beyond the $5 million mark.

All of which indicates that the Pipestone firm plans to put a sizeable kink in the statistical curve which has dutifully recorded the demise or acquisition by chains of one independent baking firm after another since the end of World War II.

Headquartered in the far southwest corner of Minnesota's rich, rolling farming country, Pan-O-Gold drives its trucks daily across a good portion of Minnesota, South Dakota, Iowa and Nebraska. A member of the Quality Bakers of America, its products are marketed under the Miss Sunbeam label.

It guides and expands its sales and distribution operations in seven key cities: Sioux Falls and Mitchell, S.D.; Des Moines and Estherville, Iowa; Brainerd, Alexandria and Wadena, Minn. Moreover, the company has tied together its operations with purchase of the Fort Dodge (Iowa) Baking Co. plant (acquired in 1955) and Lakeland Bakeries, Inc., at St. Cloud, Minn., just this year.



Jacob Heil
Operations General Manager

In the baking business since 1906, Pan-O-Gold's most recent move to keep in step with the times was construction of its new 24,000 sq. ft. plant in Pipestone. A brick and concrete reinforced building, it is designed from the basement up to house the latest in baking and materials handling equipment, one of the most modern plants erected by an independent baking company in the Midwest in decades.

In addition to being wholly automatic, the plant building itself can withstand live loads up to 3,000 lb. a square foot, and all walls are ceramic tile for easy sanitation and maintenance.

At the head of Pan-O-Gold's growing business is a comparatively young fellow who—born into a baking family—has remained to give it his time and energy. He is H. R. (Bob) Alton, Jr., 34. Now executive vice president, he started out when just old enough to sweep floors and wash pans. He took time out to earn a degree in business administration at the University of Minnesota and then immersed himself in the baking industry again by attending the American Institute of Baking's school in Chicago.

After that, recalls Mr. Alton, it was "back to Pan-O-Gold" and a term in the sales department selling bread to supermarkets. He moved up to sales manager, and it was during this period that the Pipestone plant's sales volume doubled.

Some of the firm's success at this point probably can be traced in large measure to the young Mr. Alton's own business philosophy. Simply put, he likes to have around him people who can think creatively in the baking business, the kind whom he can fit into an aggressive management team needed to meet today's lightning competition in the industry.

When the company's board of directors named Bob Alton to the topmost position, as executive vice president (he was 28) it was almost a mandate for the exercise of young, aggressive ideas. He engineered acquisition of the Fort Dodge plant, and later set to work on plans for automating production at Pipestone.

H. R. Alton, Jr.
"Baking is Our Business"

Over a period of several years, Mr. Alton and his veteran operations general manager, Jacob Heil, looked at as many automated baking plants across the country as they could find. Eventually, they gave serious attention to continuous dough making looking at the Do-Maker process of Wallace & Tiernan, Inc.'s Baker Process Co. division. The end result, now clearly visible, was not only to go over to the continuous dough process, but also to build a completely new plant housing all steps of the bread making operation from bulk handling on through mixing, fermentation, proofing, panning, baking, conveying, wrapping and distribution.

The plant now in operation at Pipestone, capable of turning out 4,000 loaves of bread an hour, is the outcome of Pan-O-Gold management's thinking and planning.

Oven Capacity

Oven capacity was more than doubled. Carefully, methodically, to make maximum use of machinery replaced, old equipment was moved over, where feasible, into the original building, which adjoins the new plant, and put to use.

Under the conventional bread baking system at Pan-O-Gold, it required day and night crews to handle production. Now one day crew handles bread production and one day crew the sweetgoods output.

The entire changeover was accomplished without downtime for the

bakery and, five weeks from the time equipment started coming in, Pan-O-Gold was over to its new production line.

Starting with the basement, Pan-O-Gold has a large flour storage room with an exceptionally high ceiling, equipped with heat and humidity controls. Eventually, when rail connections are made, bulk flour storage bins will be housed in the basement. Currently, a flour hopper and pneumatic tubing hold and convey flour to the mixing floor when called for electronically from above.

The plant's main floor provides space for a large loading dock for semi-trailers and bread vans, plus garage and repair facilities which are manned 24 hours a day. The loading facilities can handle up to 20 trucks at one time.

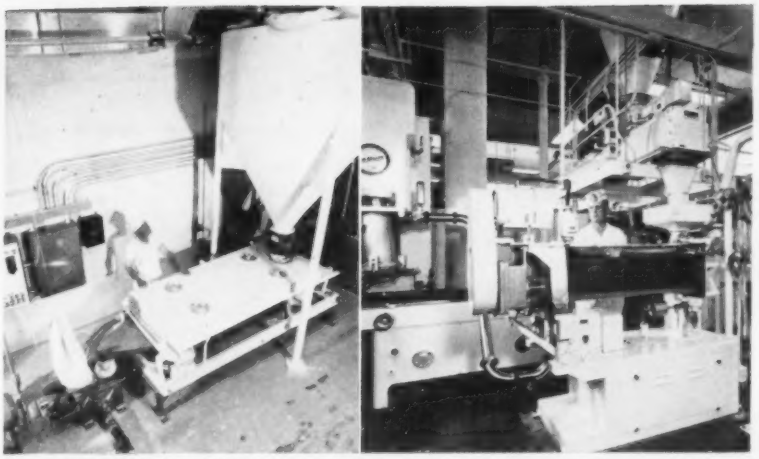
On the baking floor, where the true scope of Pan-O-Gold's modernization is gleamingly evident, high-capacity, constant-control ventilating and heating equipment has been designed into the plant. Here all checking, measuring, mixing, proofing, baking, cooling, slicing and wrapping of bread occur. Incorporated into the plant's operation are bread wrappers supplied by American Machine & Foundry Co. and automatic depanning equipment from Petersen Oven Co.

In keeping with his basic desire to "make things move ahead," particularly bakery products, Pan-O-Gold's executive vice president has drawn around him a team which shares his young ideas when it comes to making policy.

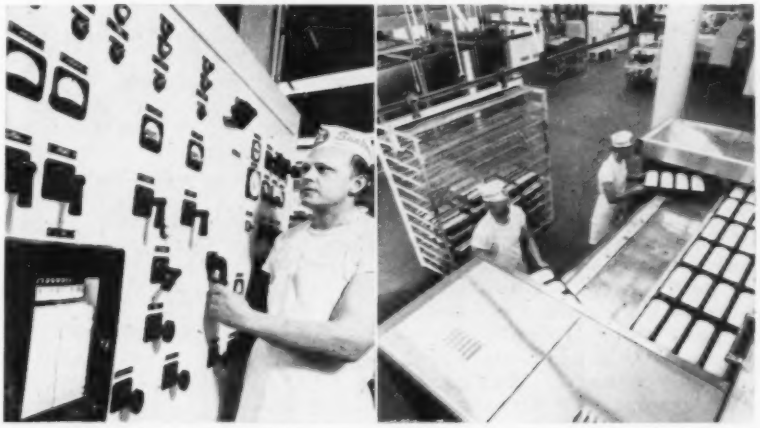
Balanced by the years of experience of veteran Mr. Heil, they include Ralph Olsen, sales manager at Pipestone; Robert Toohey, general manager at Fort Dodge; Ivan Ray, sales manager at Fort Dodge, and Merle Akervik, general manager for St. Cloud.

Operating from a small community unexcelled for beauty — but which could be set in one corner of any metropolis — Pan-O-Gold has on its payroll 400 persons throughout the four-state area where its products are marketed.

Because its plans for expansion vitally affect economies of the broad Midwest area to which it is so strategically accessible, Pan-O-Gold's first public showing of its new plant drew visitors from four states. On hand at Pipestone to view the new facilities were Gov. Elmer L. Andersen of Minnesota; Lt. Gov. Joseph Bottum of South Dakota, and representatives of Pan-O-Gold plants and its suppliers in Iowa and Nebraska. «



THE BASEMENT LEVEL, at the left, shows the flour storage area. Flour is drawn upward electronically when equipment on the baking floor above calls for it. The system was designed by Flo-Tronics, Inc. At the right, Roger Johnson, plant production manager, is at the final dough mixing stage on the baking floor, where a Plexiglas top allows full view of the operation.



AT THE LEFT Henry Fiedler operates the main control panel for Pan-O-Gold's plant, the nerve center for the entire automatic baking operation. At the right, proofed dough is put into the Read-Standard oven by Melvin Huibregtse and Larry Dahl. Proof boxes in the background were installed by Union Steel Products Co.

FLOW OF FLOUR into mixing equipment is checked by Roger Johnson. At the top is the holding container on the main baking floor which signals electronically when flour is needed from the basement.

HERE HOT water for inclusion in the basic ferment is measured in pounds and the temperature closely observed by Arnold Janssen, broth operator, as part of Pan-O-Gold's automated baking process.

Names Making News . . .

W. Robert Waterman has been named assistant manager of grain procurement for the Kellogg Co., Battle Creek, Mich., according to **Victor E. Kronmeyer,** manager of grain procurement. Mr. Waterman joined Kellogg in mid-1958 as a clerk in the grain purchasing department. In January of 1960 he was appointed as assistant to the manager of grain procurement, the position he held until his current appointment.

W. R. Waterman

●

John O. Whelpley, with the Pillsbury Co. since 1954, has been appointed assistant manager, eastern bakery flour sales. He will work under **J. W. Sturrock**, Pillsbury's eastern bakery flour sales manager. Mr. Whelpley was graduated from the University of Minnesota, first worked for Pillsbury as a systems analyst, and in 1956 became planning manager in the bakery products distribution department. Until his current appointment he was western distribution manager for the bakery products division. In his new position Mr. Whelpley also will be responsible for marketing whole wheat and rye products nationally.

●

There's a new board chairman for Great Plains Wheat, Inc. He is **Richard Lewis**, Arapahoe, Neb., who succeeds **G. W. Egbert**, Ingalls, Kansas. Mr. Lewis has been a member of the Nebraska Wheat Commission since 1959 and its chairman the past year. He was appointed to the board of Great Plains Wheat earlier this year and also serves on its budget and public relations committees. **Otis Tossett**, Lansford, N.D., is the new vice chairman on the board of Great Plains Wheat. **Ora Martin**, Garden City, Kansas, continues as secretary.

●

Two production executives of the International Milling Co. have exchanged positions. **John A. Hendrickson**, vice president, reports that **K. O. Kauppi**, production manager for the firm's Midwest region, is moving from Minneapolis to Kansas City as Southwest region production manager, while **John W. Olsen**, who held the Southwest position, becomes Midwest region production manager in Minneapolis. Mr. Kauppi is an engineering graduate of Michigan College of Mining and Technology. He also attended DePaul University's law school, spent eight years with U.S. Steel Corp. in Chicago, and joined International's engineering department in 1946. Mr. Kauppi was moved to head up the company's systems department at Minneapolis in 1956, then in 1957 was promoted to production manager in charge of company mills at Davenport, Iowa; New Prague, Wabasha, New Ulm and St. Paul, Minn. Mr. Olsen, a graduate of the University of Wisconsin, started with International at Buffalo in 1948 as a production trainee. He held subsequent production positions at Davenport and Minneapolis, then became plant manager at the Kansas City mill in 1954. Mr. Olsen advanced to Southwest production manager in charge of mills at Kansas City, Mo.; Salina and Newton, Kansas; Blackwell, Okla., and Greenville, Texas, in 1957. The present exchange is made, said Mr. Hendrickson, to provide two of International's top management executives with broad experience and training in different areas of the company.

K. O. Kauppi

J. W. Olsen

BACK FROM three months in Europe is Ernst Auer, MIAG Northamerica, Inc., Minneapolis. Mr. Auer spent six weeks at MIAG's Brunswick, West Germany, headquarters studying the latest developments in milling techniques, then vacationed in Austria and Northern Italy. He was accompanied by wife Ingeborg and children Christoph and Katherina. While in Brunswick, Mr. Auer was able to greet U.S. visitors Paul Rothwell and Alden A. Ackels of the Bay State Milling Co. and John Hendrickson of International Milling Co.

●

R. R. Howell Co., Minneapolis, has reelected **O. A. Sasada** as president and treasurer. **Roger D. Swanstrom** has been elected vice president. **D. W. Sanderson** was reelected secretary and general manager. The company manufactures and distributes, among other products, grain handling and feed milling equipment for country and terminal elevators.

●

"The key to the future of country elevators lies with more diversification —in fact, it's a necessity," states **Truman J. Beggs**, veteran general manager of F. H. Peavey & Co.'s Occident Elevator line. Mr. Beggs, who has spent most of his life in the business, directed those remarks to the country elevator industry on the eve of his July 1 retirement. At the same time, the man who joined Occident fresh from his high school graduation in 1910, expressed reluctance to discuss his past interests and accomplishments, preferring instead to express wholehearted belief that the future is of more consequence. Mr. Beggs began with Occident as an office and sample room boy, when the Minneapolis-based firm was just seven years old. Two years later he moved up to bookkeeper, then in 1918 became office manager. By 1922 he was assistant general manager, general manager in 1945 and vice president in 1949. A director of the Minneapolis Grain Exchange since 1953, Mr. Beggs is currently on the finance committee. He served as president of

FLOUR IS *King...*

The extra values of POLAR BEAR quality are appreciated more than ever these days when bread production costs are on the upswing. The fine loaf of bread POLAR BEAR can produce is fully matched by the production economies of good yield and trouble-free shop performance.

THE NEW ERA MILLING COMPANY
ARKANSAS CITY, KANSAS

the Northwest Country Elevator Assn. during 1951-53, from a previous position as vice president and director. As to the future, Mr. Beggs plans to live in Dallas, Texas.

●

The U.S. Department of Agriculture's district grain inspection office at Chicago has a new man at its head, **James Cyril Murphy**. Widely known in grain marketing circles, Mr. Murphy succeeds **English H. Floyd**, now moved to Toledo as head of that office. Mr. Murphy is a recognized authority on grain grading, standardization and inspection. He started his career with the federal inspection service at Chicago in 1930, later served at Indianapolis, Kansas City, New York, Baltimore, Spokane and Seattle. He directed inspection work at Seattle 13 years before appointment to the Chicago district office.

J. C. Murphy

●

Aeroglide Corp., Emporia, Kansas, as part of its expansion program, has added **Zane C. Fairchild**, a man with a sales engineering background, to its staff serving the Midwest. Mr. Fairchild will cover Nebraska, South Dakota and western Iowa, assisting grain and feed firms with problems related to drying. A 1950 graduate of the University of Nebraska, where he majored in agricultural engineering, Mr. Fairchild was in the sales department of J. I. Case Co., later worked as manager of a feed manufacturing plant in Lincoln, Neb. He followed this work with a position at Notifier Engineering, Lincoln, developing and selling a new type of fire alarm system for elevators. He joined Aeroglide in June of this year.

●

Changes by Bemis Bro. Bag Co. bring **Richard B. Windhorst**, formerly sales manager of the St. Louis sales division, to the post of product supervisor for textile and waterproof products. **Norman P. Uffmann**, product sales manager of the St. Louis specialty department, moves into the position of manager for the St. Louis sales division. Mr. Windhorst's new assignment entails devoting full-time to sales supervision of textile and waterproof products, responsibility previously assigned separately to two persons who now will concentrate on product lines retained within their

R. B. Windhorst

N. P. Uffmann

spheres of activity. **Gerald W. Murphy** succeeds Mr. Uffmann as product sales manager, specialty products department.

●

Ellis P. Maas, Elmhurst, Ill., has been appointed north central district representative of Industrial Machinery Co., Inc., Fort Worth, Texas, manufacturer of steel screw conveyors, elevating equipment and accessories. Mr. Maas comes to Industrial Machinery from the Screw Conveyor Corp., Hammond, Ind., with which he was associated for 21 years, most recently as north central district representative. He will work in the metropolitan Chicago area, northern Illinois, Wisconsin, Minnesota and eastern Iowa for Industrial Machinery, reports **F. D. Cole**, president. «

EXPANSION AND the need for more space has led to construction of this new office and warehouse for MIAG Northamerica, Inc., in the Minneapolis suburb of Brooklyn Center. Plans call for completion of the first part of the building by late summer, with allowance for future expansion of office and warehouse space, plus addition of an assembly plant. MIAG is now located in downtown Minneapolis.

Commodity Interests Concerned Over Deal To Barter Lead, Zinc

A pending lead and zinc barter proposal by U.S. smelters whereby the U.S. government would stockpile these strategic metals and pay the cost by selling such commodities as wheat and feed grains abroad, reportedly at discounts, has commodity interests alerted as to possible impact of such action on their overseas markets.

The matter has taken on added significance with reports that Canada may be involved through a barter deal concerning the Consolidated Mining Company of Canada wherein the U.S. would pick up lead stocks from the Canadian corporation and compensate through sales of U.S. surplus grains in world markets, possibly including Canada.

Recently, Consolidated Mining arranged to trade Canadian lead for 10 million bushels of U.S. wheat, presumably to be peddled on world markets for what it will bring. Drouth in Western Canada has created a situation in which that country may need wheat to go towards its heavy commitments to Red China. It is questioned by Washington sources whether the U.S. would allow wheat to go to Red China if obtained from U.S. supplies.

However, the Canadian minister of agriculture, Alvin Hamilton, told Parliament that he had no immediate knowledge of a barter deal between the U.S. and Consolidated Mining.

White House officials have admitted that a lead-zinc deal is in the making, but that those who approved the proposal did not sense the commodity market aspect of the deal, and that they acted on assurances of policy makers at the U.S. Department of Agriculture that such a discount offer for obtaining dollars or hard currency payments would not influence international commodity markets. Top U.S. policy makers, in turn, said that use of the term "discount" was unfortunate, and they would not concur in it. «

QUALITY MILLERS
HUNTER'S
CREAM
SINCE 1877
HUNTER'S
FLYER

Serving Bakers Exclusively

HUNTER quality is not dependent on the whims of nature or on market movements. Our huge storage facilities permit careful selection of the choicest wheats as they are marketed. And they are safely stored to give HUNTER flours a full measure of top baking quality all the year around.

IT PAYS TO BUY FROM HUNTER

Daily Capacity
6,000 Cwts....

The HUNTER MILLING CO.
WELLINGTON, KANSAS

Grain Storage
4,000,000 Bu.

Keyed to . . .

1961 Baking Industry Exposition

the NORTHWESTERN MILLER

October 2 Issue

Special Emphasis . . . on the biggest exhibit of bakery equipment, machinery and supplies ever assembled under one roof . . . at the 1961 show at Atlantic City sponsored by American Bakers Assn. and Bakery Equipment Manufacturers Assn.

Featuring . . . Editorial content slanted to analysis of the program, list of exhibitors, entertainment features, diagrams of exhibit space and other material relative to the exposition and its locale.

Plan Your Advertising NOW!

This issue will be read before and during the BIG SHOW (mailing date Sept. 29) . . . Odds are the leading bakers will peruse and then read it in detail enroute to Atlantic City.

The October 2 issue of THE MILLER will be read by approximately 2,500 representatives of the very largest bakeries in the U.S. . . . those companies offering the BIG sales potential for equipment, machinery and supplies displayed at Atlantic City . . . Plus top management of the flour milling industry.

The exposition has been publicized through advertising in THE MILLER . . . Key your advertising to this promotion campaign . . . Tell the big bakery customers that *you* are exhibiting and *what* you are showing . . . Note the booth number and extend an invitation to visit your display through an advertisement in THE MILLER.

REMEMBER—Exposition Issue Date: Oct. 2
Advertising Deadline: Sept. 18

Contact your nearest MILLER Office and reserve space

The Miller Publishing Company

2501 Wayzata Blvd., Minneapolis 40, Minn.

NEW YORK	CHICAGO	KANSAS CITY
52 Vanderbilt Ave.	141 W. Jackson Blvd.	612 Board of Trade Bldg.
New York 17, N.Y.	Chicago 4, Ill.	Kansas City 5, Mo.

Part IX

The Flour Milling Industry

An Economic Study of Excess Capacity

By Dr. Donald A. Markwalder

SIZE AND LOCATION OF PLANTS ACTUALLY BUILT

IF A FLOUR milling firm were buying and selling in purely competitive markets, it would—in the absence of transportation costs—build that plant which minimized total unit costs. For various reasons plants of this type rarely are built. Here is the most important reason why this is so: Such a plant, if built in all but a few locations, would be faced with upward sloping factor (especially wheat) supply curves and downward sloping revenue curves. This is the familiar theorem that the firm with monopoly and/or monopsony power plans to produce a smaller output than the purely competitive firm.

An additional reason why so few plants which attain all of the existing economies of scale are built is uncertainty about regional flour demand and continuing availability of high quality wheat at a low price. It is thus to be expected that new plants are built most often in an area where wheat output or flour demand is increasing rapidly.

Since milling companies deduct the value of by-products from total wheat costs to ascertain cost of the wheat ascribable to their flour milling operations, not only changes in the market price of wheat, but also in the prices of millfeed influence relative wheat cost per hundredweight of flour in a particular area. Thus, when millfeed prices decline in a particular area relative to those in another location, mills in the declining millfeed price region face a worsened competitive position.

© Donald Alfred Markwalder, 1960.

Flexibility Desired

Another reason why firms build plants which do not appear to attain all available technological economies of scale is that they want their plants to be "flexible"—i.e., to have low costs at outputs smaller than the output represented by the minimum point on the short-run ATUC curve. To attain flexibility, a plant is built which has a higher minimum point on its ATUC curve than the plant which lacks flexibility.

In the flour milling industry plants are made flexible by building two or more units in a single plant. Whenever a unit is operated, it is producing at approximately 100% of capacity. The speed at which the unit is operated can economically be changed only within very narrow limits. If the firm has only one unit, it can change its rate of output only by operating more or fewer hours per week. However, if the plant has more than one unit, the firm may be able to lower the cost of producing a particular output by operating one of its units continuously from five to six and one-half days a week while closing the other unit or units.

One more reason why firms build plants which have more than one unit: They wish to continuously produce more than one type of flour. The plant which has only one unit may also be used to produce more than one type of flour, but this can be done only by closing the plant for a short period of time while the changeover is made.

Many multi-unit plants would be able to attain lower production costs if used to produce only a single type of flour; but if more than one type of wheat is available locally or can be obtained without freight penalty, the firm usually can increase profits by building more than one unit and devoting each exclusively to a single type of flour.

The most important reason why a multi-unit plant continuously producing two or more types of flour will

be more profitable than a single unit plant producing a single type—even though the multi-unit plant has higher production costs—is this: The firm with the multi-unit plant can attain lower selling and distribution costs. Continuing relationships are maintained with bakers.

It is necessary for salesmen to call upon the bakery trade, and selling costs for the milling firm are lower when it can fulfill all of the baker's flour requirements. Lower transportation costs may also be obtained when delivering several types of flour to a single bakery. Whole wheat is the specialty flour which clearly illustrates distributional cost savings to be secured by production of as many types of flour as possible. Many larger firms have units as small as 250 cwt. daily capacity devoted exclusively to production of whole wheat flour.

Most multi-unit plants which have units with an average size of less than 4,000 cwt. seem to have been built primarily to attain lower marketing costs. Technological economies of scale were sacrificed to attain marketing economies. This is not true of multi-unit plants in the Southwest which have units with an average daily capacity of less than 4,000 cwt. because these mills can economically grind only hard wheat. Some smaller multi-unit plants in this region were built because of the presence of uncertainty, but much multi-unit plant construction merely represents growth beyond the original plan.

Examples of plants, which produce two or more types of flour in plants large enough to attain all technological economies of scale but in units which are not, are the Mennel Milling Co. plant at Toledo, the Eckhart Milling Co. plant in Chicago, the Fisher Flouring Mills Co. plant at Seattle, the Centennial Mills, Inc., plant at Portland, Ore., the J. Allen Smith & Co. plant at Knoxville, Tenn., and the California Milling Corp. plant at Los Angeles. All produce two types of flour, and some as many as four. The technological economies of scale which these plants have sacrificed are not extremely large because the average size of each of the units is above 2,500 cwt.

Two-Unit Plants

On the other hand, there are several two-unit plants of a plant size not large enough to attain all of existing technological production economies. The presence of uncertainty appears to have been an important factor in construction of these small, two-unit plants.

The largest plants locate in large metropolitan areas or in cities which are wheat terminals—locations where either the supply curve of wheat is most elastic or the revenue curve for flour output of any firm is most elastic. Of course, the revenue curve for flour output of any firm may be elastic either because the local market is very large or transport costs are low.

Also, the supply curve of wheat may be elastic either because the quantity grown in the local area is large, transport costs of wheat to the location are low, or the plant is located in the normal "flow" of wheat.

As Table I reveals, 10 of 11 plants having a capacity of above 10,000 cwt. daily are located on navigable water. This means they have low transportation costs. The Pillsbury plant at Springfield, Ill., is the only one which must use non-water transportation exclusively. This plant is also the only one having a capacity in excess of 10,000 cwt. which is not located in a terminal wheat market, but even it is located in an area in which considerable wheat is grown.

The cities in which these large plants are located also reveal that wheat is a more important locational factor than the market. The flour mill located in or near a wheat growing region posesses flexibility enabling it to ship flour to one market and millfeed to another.[1]

The large plants are located either in an important wheat growing region or between such a region and the flour and wheat deficit areas. If a mill were located in one of the large eastern cities such as New York, Philadelphia or Baltimore, it would be excellently situated to serve its particular metropolitan area and the export market, but would normally be paying a freight penalty on any flour which it shipped westward. It would also be paying a freight penalty on much of the millfeed which it produced. Buffalo is much better located as a flour milling center than the eastern seaboard cities because it receives spring wheat by water, is in the midst of a region which produces considerable quantities of soft winter wheat, and normally can ship flour and millfeed either north, south or east without freight penalty.

In contrast to the large Buffalo mills having an average capacity of approximately 16,000 cwt. are the small mills of the Southeast. The latter region is the one in which mills of over 400 cwt. capacity are of the smallest average size. As of 1956 there were 40 mills in this region with a total capacity of 63,170 cwt.—the average size of each mill being 1,579 cwt. This region is a very heavy flour deficit area, and most of its hard wheat bread flour and considerable quantities of soft wheat flour are milled in other regions of the U. S.

As one moves south and east in this region the average size of mills declines. This is to be expected, since the farther south and east one proceeds the higher wheat prices normally are and the smaller is wheat production.

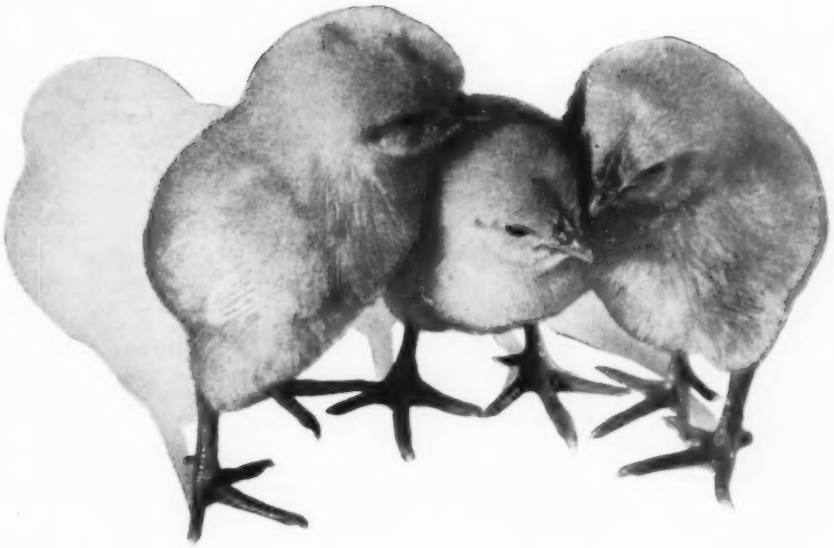
This means that a mill can usually ship flour south and east without freight penalty, but not north and west. Thus, the market for Virginia mills is Virginia and south, and the

TABLE I
TRANSPORTATION AVAILABLE TO LARGEST FLOUR MILLS IN THE U.S. 1958

Location	Firm	Transportation Available
St. Louis	Flour Mills of America[1]	Water—to and from
Buffalo	General Mills, Inc.	Water—to and from
Toledo	National Biscuit Co.	Water—to and from
Buffalo	Pillsbury Mills, Inc.[2]	Water—to and from
Minneapolis	General Mills, Inc.	Water—from
Springfield, Ill.	Pillsbury Mills, Inc.	No water transportation
Buffalo	International Milling Co.	Water—to and from
Seattle	Fisher Flouring Mills Co.	Water—from
Kansas City	General Mills, Inc.	Water—from
Kansas City	Commander Larabee Milling Co.	Water—from
Alton, Ill.	Russell-Miller Milling Co.[3]	Water—to and from

[1]This plant was sold to Colorado Milling & Elevator Co. in June of 1958.
[2]Now The Pillsbury Co.
[3]Now Russell Miller-King Midas Mills.

[1]Edgar M. Hoover, "The Location of Economic Activity," (1st ed.; New York: McGraw-Hill, 1948), p. 41. Hoover stresses the advantages which a flour mill obtains by being situated at a point at which there is a break in the method of transportation, but he neglects the marketing flexibility discussed here.



We hate to bring up sex, but...

If it's egg production you're after, how do you pick the layers? While there's no sex problem in milling flour, it does take all our experience and skill to make it uniform—clinched by a final test. We're so good at it we can guarantee flour to suit your need exactly, time after time. It's Bin-Checked*!

Everybody talks uniformity... *Atkinson delivers it!*

Don't take less than you can get from

ATKINSON MILLING CO.

MINNEAPOLIS

IT'S BIN CHECKED

IT'S BIN AGED

*Trademark

market for North Carolina mills is that state and south. The reason why plants in these two states are so small and have an average capacity of only 1,017 cwt. is that the local wheat supplies are small and somewhat undependable. Each mill possesses some slight monopsony power over wheat prices due to freight costs alone. The cost of wheat shipped from wheat surplus regions to the north and west sets the maximum price which a mill will be required to pay for local wheat. But the minimum price will (in the absence of oligopsony) be this maximum price minus excess of the transport costs of the farmer's wheat to a mill other than a local mill over his transport costs to the nearest mill. The possibility of oligopsonistic wheat buying behavior in these circumstances is evident.[2]

Many of these mills also have a cornmeal capacity which equals, if not exceeds, their wheat flour milling capacity. The flour mills are by no means large enough to attain all available technological economies of scale, but they have a good family flour trade and are prosperous when local wheat supplies are adequate.

TRANSPORTATION[3]

The more efficient transportation services which have been developed in the past century have lowered transportation costs and greatly enlarged competitive marketing areas.

Increased in Size

It is well known that declining transfer costs tend to increase the size of the market and break down local monopolies.[4]

This is precisely what has happened in the flour milling industry. Prior to development of railroads in the 19th century a flour and grist mill was a normal feature of most villages—no matter how small. As a national rail network developed isolated, local wheat and flour markets of these small mills tended to break down.[5] In more recent decades availability of truck and automobile transportation has had the same result, permitting flour to be delivered in areas which were not served by rail transportation and by increasing the area from which the consumer may make purchases.

It is evident that improved transportation facilities and declining transport costs, as well as technological changes in the milling process, have operated to increase actual and optimum size of flour mills.[6]

The outstanding transportation development of the past few decades in the flour milling industry has been increasing use of water and trucks. Particularly the smaller mills, with a capacity of less than 1,000 cwt., seem to have made most efficient use of intercity trucking in transporting flour. In most cases trucks are owned by the milling firm; thus rates are not subject to regulation.

There is usually no cost saving involved unless the mill can find a load for the truck on the return trip. Several mills have solved this problem by bringing formula feed ingredients to their plants on the way back. Most firms with plants in fairly large cities utilize trucks in shipping flour to bakeries located in the city. One small family flour firm utilizes trucks exclusively in delivering flour to retail stores in Evansville, Ind., and within a 100-mile radius.

MILLING IN TRANSIT

Both wheat and flour are shipped by truck and water. In fact, truck and water transport are in many instances complementary, and availability of these types of transportation often increases demand for the other. The fact that these two types of transportation complement one another in demand for services seems largely to result from milling-in-transit rates of the railroads.

Milling-in-transit gives a price incentive for the mill to ship flour by rail if it has received its wheat by rail. However, if the mill has received its wheat by truck or by water, the rail rate for flour shipment is not so low as it would have been if the mill had received its wheat by rail. Thus, if it is possible for a milling firm to supply its wheat needs by truck or water,[7] this firm will have less of an incentive to ship its flour by rail. Since, in general, mills are located in wheat growing regions and wheat is a very widely dispersed raw material, truck transportation is often the most efficient method of making the relatively short haul from the farm or country elevator to the mill.

The mill, if it is located on navigable water, may then ship its flour either by truck or water. Trucks are used most frequently to deliver flour within a radius of 100 miles of the mill, and water is usually the only economically possible method of shipping flour in excess of 1,500 miles. Although railroad transportation has been declining in relative importance in the milling industry,[8] it is still a means of transportation used by an overwhelming majority of the mills. «

[2]On at least one occasion a plea for cooperation in wheat buying was publicly made by the president of one of the mills in this region. In 1931 President Fretwell of the Spartan Grain & Mill Co., said that, "We, therefore, must practice some real cooperation in our buying if we are to be a factor in the selling. . . We have a large production of good wheat in this eastern territory that usually moves at a price that gives us a big advantage over the West." THE Northwestern MILLER, June 24, 1931, p. 842.

[3]Most analyses of flour milling costs do not include freight costs. This results from the fact that wheat is usually bought at the mill or at a price which includes the freight while flour is normally sold f.o.b. In many instances it is quite clear that the freight costs of flour alone may be higher than the total of all other non-materials milling costs. E.g., in a brief presented by a group of millers in 1924 before a Tariff Commission non-materials costs per hundredweight of flour were said to be 42c, while the freight from Minneapolis to New York was 46c cwt. THE Northwestern MILLER, March 5, 1924, p. 997.

[4]Hoover, p. 167.

[5]W. Halder Fisher, "An Economic Study of Mortality and Survival Among Southeastern Flour Mills" (prepared for Pillsbury Mills for use in the F. T. C. Docket No. 6000 Case, 1956), p. 11.

[6]Fisher, p. 11.

[7]Milling-in-transit is also the primary reason for the policy of flour mills to pay more for wheat delivered by rail than for wheat delivered by truck or barge.

[8]In 1946, 94% of U.S. flour output was shipped—at least some distance—by rail. The percentage dropped to 88% in 1947, 86% in 1948, and has been between 83% and 85% for each of the eight years, 1949-56. Earl B. Smith, "The Milling Industry's Transportation Problem," THE Northwestern MILLER, April 29, 1958, pp. 12-21.

In Part X Dr. Markwalder will continue his analysis of transportation, taking up in detail the procedures and use of water transportation by the flour milling industry. He then will summarize his material on costs as they affect excess capacity, moving on to a discussion of demand for the industry's products.

West Virginia Bakers To Hear ABA Chairman

John C. Koetting, Rainbo Baking Co. of Houston, Texas, chairman of the board of governors, American Bakers Assn., will address the West Virginia Bakers Assn. which meets at the Greenbrier Hotel, White Sulphur Springs, July 16-19.

Scheduled to address the association's annual business meeting, Mr. Koetting will outline his views on possible solutions to the numerous problems and challenges facing the wholesale baking industry today.

The three-day convention is expected to draw approximately 300 persons, and will include a golf tournament, games, dancing and other attractions. «

is baking becoming too scientific?

Complex developments are coming fast. Here's how Russell Miller-King Midas feels about these advances—and their effect on your profit potential.

Think back over the past years . . . the new equipment, the new ingredients, the new processes added during that time. We think you'll agree, baking can't become too scientific as long as improvements pay off for you in terms of a better product . . . a bigger profit. But here's something to keep in mind. Even though new developments are coming fast—even though texture, flavor and keeping-quality are constantly being improved—the success of any of these developments still depends largely on your basic ingredient, flour. Naturally, Russell Miller-King Midas salutes the scientific advances made by the baking industry. We're familiar with every one of them. We've worked to help develop quite a few. But most important to you, we select our wheats and mill our flours to take practical advantage of every new development. We test and re-test, bake and re-bake with our flours until we know accurately how these flours will perform for you under the most advanced baking techniques. And we're happy to share this knowledge with you—along with technical assistance, production help, formula analysis, and continuing merchandising services. No matter how scientific baking becomes, the products from your ovens can be only as good as your flour. When that flour is from Russell Miller-King Midas, you're sure of unsurpassed quality and performance. Next time he calls, ask your Russell Miller-King Midas man about his flours and services (this includes mixed shipments and other ordering conveniences). Have him explain how these flours can help you take full advantage of the new horizons in baking. You'll make the most of both new baking developments and your own baking skills with quality flours from Russell Miller-King Midas.

RUSSELL MILLER-KING MIDAS MILLS

Milling Division of F. H. Peavey & Company • *Pioneer specialists in milling fine flours*

MINNEAPOLIS 15, MINNESOTA. Millers of Occident, American Beauty, Producer, King Midas, Powerful and other superb Hard Spring, Hard Winter, Soft Wheat and Rye Flours.

Fumigants Are Versatile—

Knowing What Each Can Do Will Facilitate Selection

By RICHARD T. COTTON

U.S. Department of Agriculture Photo

The ultimate, ideal fumigant, when it is found, will be effective rapidly against insects in concentrations not harmful to warm-blooded animals. It will be inexpensive, harmless to the product treated, easy to handle and not excessively absorbed. It will leave no residue and will be effective at all temperatures. But, until that day arrives, there are many effective fumigants with good qualities.

SCIENCE AND technology—bringing new products on the market at express train speed—have given the grain man and the flour miller a range of fumigants to suit the occasion whenever and wherever needed. And the baker, as the final processor, also reaps benefits when the job is done properly.

Few today question the vital role played by fumigants in preserving of stored grain and other food products when it comes to curtailing insect damage. It's the very versatility of fumigants today which makes them applicable to the needs of a particular situation.

Like many products, fumigants have their good and bad features. But when properly used they provide results which sometimes ascend to the astounding. To utilize them to greatest advantage the operator should understand their behavior under a variety of conditions, and that's a "must." Moreover, he must be familiar with the characteristics of the many fumigating materials at his disposal.

Simply stated:

Fumigants are chemicals which, in their vapor phase, are poisonous to insect and other animal life exposed to them.

They are particularly useful for combatting insect infestations in stored foodstuffs because they can penetrate large bulks of stored products and reach insects which are working far below the surface.

Under favorable conditions, fumigants work fast and effectively against all stages of insects, even those concealed within kernels of grain. Their volatile nature insures, with few exceptions, eventual disappearance of poisonous residues from fumigated foodstuffs. The cost of fumigation usually is low. The materials are relatively inexpensive. Small dosages usually suffice. Fumigation is usually considered a curative measure, but it is essential in most programs as an agent for the prevention of damage to foodstuffs in storage from insect attack.

Fumigants have some drawbacks.

They are toxic to the operator as well as to insects. Some foodstuffs, notably those rich in oil, may retain obnoxious odors from certain fumigants and others may be adversely affected by repeated fumigations or excessive concentrations. The viability of seed may be reduced by some fumigants under certain conditions.

The ideal fumigant is one that is rapidly effective against insects in concentrations which are not harmful to warm blooded animals; that is inexpensive, readily available, easily handled; is harmless to the produce being treated; is not absorbed excessively; leaves no residue, and is effective at all temperatures. Such a fumigant is unknown at the present time. However, there are many fumigants with good qualities which are available and suitable for the varying needs of the fumigator.

Early History

Fumigation, according to the dictionary, is the art of applying fumes, perfumes, smokes or vapors, especially for the purpose of disinfecting, or disinfesting.

The earliest effective fumigant was sulfur dioxide. According to accounts in Homer's Odyssey, it was common practice to utilize the fumes of burning sulfur for disinfecting houses as early as the 12th century B.C. The great development of fumigants for insecticidal purposes has taken place during the past 100 years.

The use of carbon disulfide as a fumigant was discovered in 1854; but not until 1879 did it come into general use for treating stored grain. The use of hydrocyanic acid as a fumigant began in 1886. Chloropicrin was first proposed as a fumigant in 1907, ethylene oxide in 1927 and methyl bromide in 1932.

To properly understand use of fumigants, we should know how they kill insects. They do it by preventing assimilation of oxygen by body tissues. Terrestrial insects, unlike vertebrates and some aquatic insects, do not depend upon hemoglobin, the respiratory pigment of animal blood, to transport oxygen to various parts of the body.

Air passes by diffusion, assisted by inspiratory movements of the abdomen and thorax of the insect, into a system of tubes, the trachea and tracheoles, throughout the body. Oxygen diffuses through the thin walls of the smaller tubes (the tracheoles) and enters into solution in the cell cytoplasm. Fumigants are carried into the insect body through the process of respiration.

Simple asphyxiants, such as carbon dioxide, nitrogen and hydrogen, have little or no poisonous effects upon insects. But by replacing oxygen of the

atmosphere, they mechanically prevent oxygen from reaching them. Insects do not require as much oxygen as warm blooded animals and are capable of surviving one or two days in a pure inert gas. They eventually die if not restored to oxygen.

Carbon monoxide, which is deadly to warm blooded animals in low concentrations, acts as an inert gas against insects because its chief toxic effect is that of combining with hemoglobin of the blood to the exclusion of oxygen. As previously stated, terrestrial insects do not have hemoglobin in their blood.

More effective, useful fumigants for destroying insects exert a deleterious effect upon activities of the enzymes associated with cell respiration, preventing tissues of the insect body from uniting with oxygen in the usual manner. It is this latter group upon which we rely for most commercial fumigation work.

Factors Affecting Efficiency

For successful fumigation, the insect must be surrounded by vapors of the insecticide in a concentration heavy enough and for a sufficient period to produce death.

The higher the concentration of a fumigant the more rapidly effective it will be against any particular insect. In general, mortality is the product of the concentration times the length of the exposure period.

Type of construction and tightness of the fumigation enclosure are of primary importance in maintaining a high gas concentration. Wind velocity during fumigation is also of great importance.

In general, the higher the temperature the more effective the fumigant. Sorption is not so great at high temperatures and gas molecules are more active.

Fumigants differ greately in physical characteristics and toxicity to insects. Some are useful for treating large enclosures partially filled with commodities; others are best suited for treating bulk commodities in bins.

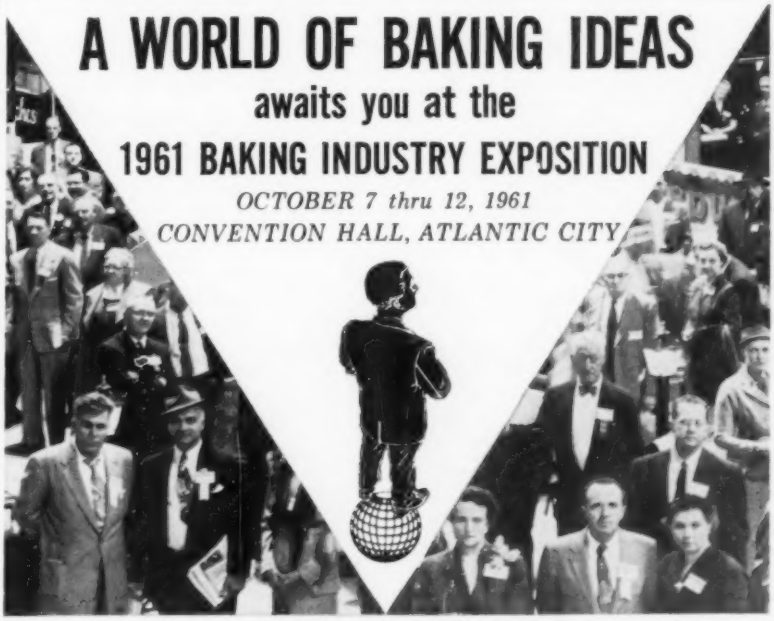
Sulfur dioxide was the first successful space fumigant. It was highly effective, inexpensive, and had good warning properties. Unfortunately, it also had many bad qualities, and has been largely replaced as a space fumigant by HCN, methyl bromide and chloropicrin.

Most of these chemicals, unlike HCN and methyl bromide, are liquids at ordinary room temperatures, hence they vaporize more slowly. Many are flammable and must be mixed with non-flammable materials to reduce their fire hazard. Carbon disulphide, ethylene dichloride, ethylene dibromide, carbon tetrachloride and acrylonitrile are typical examples of these fumigants.

Many chemicals have been tested as fumigants. However, only a few possess characteristics desirable for practical use, and at the same time are cheap enough to meet competition of rival chemicals. Here is a brief account of fumigants in common use in grain storage, flour mills and warehouses:

Acrylonitrile: Nitriles as a group, are quite effective as fumigants against insects; however, acrylonitrile is the only one now in use in the U.S. Acrylonitrile (CH_2CHCN) has a molecular weight of 53.06; boiling point 77.3-77.5° C. and a specific gravity (liquid) of 0.801 at 25°/4°; flash point 4°C.; flammable limits (in air) upper 17% by volume, lower 3.05% by volume. It is available as a grain fumigant in a 1 to 9 mixture by volume with carbon tetrachloride, and as a space fumigant in a 34-66 mixture by volume with carbon tetrachloride.

Carbon dioxide: Chemically CO_2, when used alone it has never proved very satisfactory as a fumigant due


A WORLD OF BAKING IDEAS
awaits you at the
1961 BAKING INDUSTRY EXPOSITION
OCTOBER 7 thru 12, 1961
CONVENTION HALL, ATLANTIC CITY

See the most complete display of bakery equipment, machinery, supplies and services ever assembled... 303 exhibitors...953 booths. Watch advanced baking techniques demonstrated. Participate in discussions and workshop sessions concerning progressive, profitable baking ideas. See you in Atlantic City!

Sponsored by
AMERICAN BAKERS ASSOCIATION
and
BAKERY EQUIPMENT MANUFACTURERS ASSOCIATION

Make your reservations today . . . for further information write
AMERICAN BAKERS ASSOCIATION, 20 N. Wacker Drive, Chicago 6, Ill.

to difficulty of maintaining a high concentration in enclosures long enough to kill. It has a narcotic effect upon insects and they may remain inactive for one or two days without losing their power of recovery when returned to fresh air. Carbon dioxide is a gas at ordinary temperatures. It is sold commercially in the solid form as "dry ice" or as a liquid in cylinders under pressure. Its molecular weight is 44; specific gravity compared to air is 1.529, and its boiling point —78.5° C. It is used to a limited extent in admixture with flammable fumigants to reduce fire hazard or to increase toxic action.

Carbon disulfide: The use of carbon disulfide for treating grain was suggested in 1854. For many years it remained the standard fumigant for that purpose. Because of the flammable nature of its vapors mixed with air, it is seldom used undiluted. In combination with carbon tetrachloride it is still one of the leading fumigant mixtures now in use for treating stored grain.

Molecular weight is 76.13; boiling point 46.3° C.; specific gravity 1.261 at 20°/4° C. Upper limit of its flammability in air is 50.+%, lower limit of its flammability in air is 1.06%.

Carbon tetrachloride (CCl_4): This is used chiefly as a diluent for more toxic fumigants to give greater volume and to reduce fire hazard of flammable chemicals. It is effective when used alone, but is more often used in combination with carbon disulfide, ethylene dichloride, ethylene dibromide, acrylonitrile and other chemicals. It is a colorless, non-flammable liquid with a pungent, aromatic odor. Molecular weight is 153.83, boiling point 76.8° C. at 760 mm, and specific gravity 1.595 at 20°/4°C.

Chloropicrin (CCl_3NO_2): This is a lachrymatory gas that came into prominence as a war gas in World War I. It is used alone and in admixture with carbon tetrachloride for treating stored grain, and in pressurized cylinders for the space fumigation of flour mills and warehouses.

It is nonexplosive and non-inflammable as ordinarily used for fumigation. It has the disadvantages of being slow to vaporize and disagreeable to handle because of its lachrymatory properties. Vapors cling tenaciously to fumigated commodities and seriously affect germination of grain and seed if the moisture content is high or if used in heavy dosages or for long exposures. It is a colorless or slightly yellowish liquid a little more than one and one half times heavier than water. Molecular weight 164.38, boiling point 112.4° C. and specific gravity 1.692 at 0°/4° C.

Ethylene dibromide ($C_2H_4Br_2$): This is popular as an additive to grain fumigant mixtures to improve kill in surface grain. The vapors are non-flammable. As a grain fumigant it is added to carbon tetrachloride or mixtures of carbon tetrachloride and other chemicals at the rate of 5% by volume. As a spot fumigant in flour mills it is available as a 15% mixture in carbon tetrachloride. It is also available in various proportions in admixture with methyl bromide as a grain fumigant, spot fumigant and space fumigant. Molecular weight is 187.86, boiling point 131.7° C. at 760 mm, specific gravity 2.182 at 20°/4° C.

Ethylene dichloride (CH_2Cl-CH_2Cl): Here is one of the most widely used of the heavier-than-air fumigants. It was discovered during a search for a substitute for carbon disulfide and is now in common use as a grain fumigant in a 3 to 1 mixture with carbon tetrachloride. This mixture is also used as a spot fumigant in flour mills. It is of value for treating seeds because it has but little effect on germination. Molecular weight is 98.947, boiling point 83.7° C. and specific gravity 1.257 at 20°/4° C. Upper limit of flammability is 15.9%; the lower limit is 6.2%.

Hydrocyanic acid (HCN): This is one of the best known fumigants in use today. It is highly toxic to warm blooded animals, as well as to insects, and is widely used as a space fumigant in mills and warehouses.

It is one of the few lighter-than-air fumigants. For space fumigation it is available in liquid form in cylinders, or it can be generated from a mixture of dilute sulfuric acid and sodium cyanide. It is also available in airtight cans containing wafer-like paper discs impregnated with liquid HCN. For fumigation of stored grain, granular calcium cyanide is available in drums.

When mixed with grain, it reacts with atmospheric moisture to produce hydrocyanic acid. It has the advantage of killing insects with great rapidity, so it can be used successfully in enclosures not tight enough for use of other fumigants. Its vapors have little effect on dry seed. Molecular weight is 27.016, boiling point is 26° C. at 760 mm, and specific gravity 0.699 at 20°/4° C. Its upper limit of flammability is 40%, its lower limit 5.6%.

Hydrogen phosphide (PH_3) or phosphine: This has been used as a fumigant in Germany for many years. It is extremely toxic to warm blooded animals but is reported one of the most effective fumigants against stored grain insects, comparing favorably with those in common use. In practice, aluminum phosphide tablets, sold under the name of Phostoxin, are mixed with grain as it is turned or are inserted in bulk stored grain by means of probes.

Aluminum phosphide decomposes in the presence of water vapor to yield gaseous hydrogen phosphide. Hydrogen phosphide is slightly heavier than air; its density is 1.18 compared with air = 1.0. Molecular weight is 34.0, specific gravity (liquid) 0.746, boiling point —87.4° C. It is spontaneously inflammable, and when mixed with air, widely explosive. The lower explosion limit is 1.79 to 1.89% by volume.

Methyl bromide (CH_3Br): This has a wide variety of uses and is one of the most effective fumigants known. It is relatively inexpensive, highly toxic to insects and warm blooded animals, non-flammable at concentrations used in commercial practice, is quite stable chemically, has low water solubility, penetrates bulk commodities easily, and can be used successfully at comparatively low temperatures.

It is most useful as a space fumigant in mills, warehouses and fumigation chambers. For the treatment of bulk grain it should be applied by use of forced circulation. Mixtures of methyl bromide with ethylene dibromide or chloropicrin are effective for warehouse fumigation. In admixture with ethylene dibromide it is also used as a spot fumigant and for treating stored grain. At ordinary room temperatures methyl bromide is a gas. Molecular weight is 94.94, boiling point 4.5° C., specific gravity 1.732 at 0°/0° C.

Sulphur dioxide (SO_2): Here is probably the oldest known fumigant. As a space fumigant the vapors are usually produced by burning sulphur, although SO_2 is available in liquid form in cylinders. Danger of fire from the burning of sulphur, and corrosive action of the vapors have resulted in its replacement by other fumigants. It is seldom used except as a minor component of certain grain fumigants. The vapors are non-flammable. They render wheat and flour unfit for bread making, quickly destroy germination, bleach fabrics and tarnish metals. Molecular weight is 64.06, boiling point —10° C., and specify gravity 2.264. «

Rodney Flour Service

As personalized as your own fine products for your customers!

Sack or Bulk . . . it begins with Rodney flour itself—any *exact* baking flour you may want. Your choice of 15 favorite brands plus special formulation to your specification. Bulk flour—never co-mingled, each binned *separately* in Rodney's unique multi-tank system. In addition, Rodney *personalized* service means weekly flour information, bakery specialists as close as your telephone and always at your call. Whatever the problem, Rodney *personalized* service is dedicated to solve it together with you. *Service* we try to make as personalized as your own fine products for the housewife.

RODNEY MILLING CO. General Offices: KANSAS CITY 8, U.S.A. **Mills at:** Kansas City, Missouri, McPherson and Topeka, Kan. **Offices at:** BOSTON—Seaboard Allied Milling Corp., CHICAGO—Kelly Flour Co.

35,000 Cwts. Daily Capacity • 15,000,000 Bushels Storage

SPOTLIGHT on WASHINGTON

By John Cipperly

ALL THE INDICATORS are pointing to the fact that the U.S. government will undertake broader use of international commodity agreements in an attempt to stabilize prices for commodities. This will be particularly true for those nations where one commodity is the keystone of the local national economy.

•

Clearly, the Kennedy administration has adopted a direction initiated by the Eisenhower administration. And on more than one occasion President Kennedy has made specific reference to the international commodity situation and called for aggressive efforts in this area.

John Cipperly

•

Speaking before the Commission of International Commodity Trade at the United Nations recently, Werner M. Blumenthal, deputy assistant secretary of state for economic affairs, spelled out the administration's position in greater detail and used direct quotes from the President to support his comments.

•

He said: "The U.S. government has long recognized the significance of commodity trade throughout the world. We have always been interested in the search for possible means of ameliorating such existing problems in world commodity markets as evidenced by fluctuations in the volume of trade and price levels by lagging demand conditions, excess production and undesirable trends in terms of trade of the primary exporting countries."

•

At this point, Mr. Blumenthal quoted from the text of the President's comments before the Organization of American States' ambassadors: "The U.S. is ready to cooperate in serious case-by-case examinations of commodity market problems. Frequent violent changes in commodity prices seriously injure the economies of many Latin American countries, draining their resources, stultifying their growth. Together we must find practical means of bringing an end to this pattern."

•

Mr. Blumenthal declared that while the President's remarks were addressed to the nations of Latin America, they are equally applicable to the commodity problems of all developing countries.

•

Much of what Mr. Blumenthal said was of considerable significance to commodity market men—The U.S. not only intends to cooperate but hopes to be able to contribute ideas . . . we do not as yet have any firm conclusions . . . The U.S. is a major exporter and consumer of wheat and cotton . . we are the largest buyers of cocoa beans, rubber and coffee . . we recognize the close relationship between export income of the growing nations and for that reason the U.S. is vitally interested in their development programs . . . in 1960 the record was characterized by a high volume of production and international trade and consumption of commodities . . . yet showed continued weakness in international commodity prices which emphasizes the complexity of the problem.

•

Mr. Blumenthal developed his theme with these remarks—The U.S. favors a case-by-case examination and study of a multiple approach . . . this year the international commission will consider stabilization techniques which warrant attention . . . such as compensatory financing and formal commodity agreements as now exist in wheat, sugar and tin to hold prices within a prescribed range . . . last year the U.N. commodity committee focused attention upon imbalances of supply and demand in primary markets and the substantial influence of such imbalances upon current conditions in commodity market trade . . . analysis of current commodity market conditions reveals that over-supply and over-capacity is now the most pressing general problem affecting commodity markets . . . this is the only way that one can explain the phenomenon of record levels of consumption and trade in primary commodities coupled with a fundamental and persistent price weakness.

•

"We consider it important," said Mr. Blumenthal, "as regards the solution of commodity problems that what is required above all else is the cooperation between producing and consuming nations in dealing with commodity problems."

•

Despite his sharp pessimistic warning about commodity prices and the prices of commodities and their distribution, he ended with a hopeful note: "There is optimism

International commodity trade stabilization agreements seem to be a certainty for the future, declares John Cipperly, veteran MILLER Washington correspondent. How far the administration may go in making such agreements effective through government-to-government trading remains uncertain. But grain men and processors should have an awareness of what may be in the making.

about long run trends . . . the anachronism of the present is that surpluses and imbalances exist in the face of deficiencies in consumption in many parts of the world. One of our challenges is to devise ways for enabling millions to obtain the fruits of the increasing efficiencies of production and output. The U.S. is making an important effort in this direction in the Food for Peace Program, even though this admittedly is a short run program. A final hopeful factor is the expansion of the world population where increasing production can be channelled to serve those needs."

•

While the state department sets forth evidence of the probable trend of U.S. policy in regard to commodity market stabilization there are other warning signals which may require the U.S. to tailor its designs to face up to other realities.

•

For example, the New York Times reports that the European Common Market is far from agreement on the agricultural phase of its operation and that U.S. exports to the Common Market may only enter on the basis of levies on such imports as far as agricultural commodities are concerned. Such a situation endangers the business in flour exported to Holland. According to some press despatches, Western Europe is headed for self sufficiency in bread grains. The Common Market attitude reflects these opinions, though it is hard to imagine how Europe could get along without U.S. and Canadian hard wheats: Unless they get them from Russia which is not beyond the bounds of possibility one day. Russia has been doing some business with Western Europe in wheat in recent months. But the prospect for over-all wheat sales by the U.S. and Canada in the future is a matter for contemplation.

•

There are also indications in overseas reports that Western Europe in the coming year will not only be self sufficient in feed grains but actually may be an exporter.

•

Another aspect of the export situation is the decision of the U.S. to make U.S. agricultural surpluses available for sale to Communist-dominated European countries. Sales will be at the subsidized price available to buyers in other parts of the world for hard or convertible currency. But the Red Chinese bloc is excluded.

•

Basically, this development does not carry substantial connotations unless one looks into the recent background. About 15 months ago, Russia asked about the availability of soft red wheat, but was only willing to pay the subsidized price. The deal fell through. The request, it is understood, represented a large volume. If it were to be repeated under the liberalized terms of export sale and licensing, a heavy sale of soft red wheat could have a material effect on the Chicago futures market in the new crop year. «

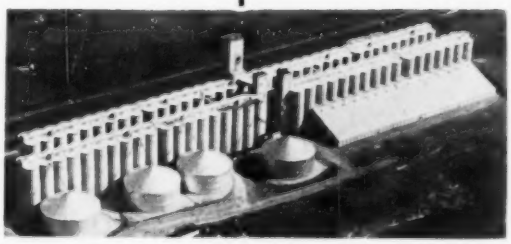
LINCOLN-CGF GRAIN COMPANY

LINCOLN | **NEBRASKA**

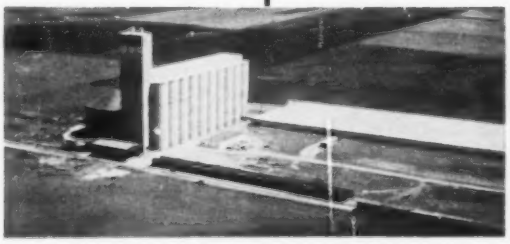
Offering You

Complete Grain Service

By Rail and Truck



ELEVATOR A—14,000,000 BUSHELS



ELEVATOR B—9,200,000 BUSHELS

SAM A. DARROUGH, *Manager* • **W. W. WELCH,** *Assistant Manager*

Phone: HE 2-2706 • **TWX: LI 8169**

Wheat Strength

and the

Sedimentation Test

By DR. LAWRENCE ZELENY

Wheat Strength

STRONG WHEATS are those that yield flours capable of producing bread of loaf volume and superior internal characteristics. Weak wheats yield flours that will produce bread of small loaf volume and unsatisfactory internal characteristics. Weak wheats, however, are usually superior to strong wheats for production of cake, cookie, cracker and pastry flours.

Dr. Lawrence Zeleny

The baker does not usually want the strongest possible flour for bread baking. Therefore, the miller in producing bread flour usually uses a moderately strong wheat or a blend of a strong wheat with weaker wheat to obtain the strength in his flour the baker desires. Nevertheless, the supply of relatively weak wheat in the U. S. and throughout most of the world is considerably greater than the supply of strong wheats. For that reason strong wheat is in great demand and usually commands a considerable premium over weaker wheat in U. S. and world markets. U. S. hard wheat farmers are being urged to grow strong varieties, and hard wheat breeders are emphasizing the importance of strength in their breeding programs. Practical methods for estimating wheat strength are greatly needed as aids in the marketing of wheat.

Important Factors

Strength of wheat may depend on a number of factors but the most important of these are protein (or gluten) content and gluten "quality." Although strong wheats are generally considered to be those of high protein content, wheat of high protein content is sometimes much weaker than expected because of a weakness in its gluten.

Gluten quality depends both on variety and climatic conditions during growth.

Wheat strength is best measured by carefully controlled milling and bread-baking tests, using a baking method that is sensitive to small differences in strength. The bread volume is then used as a measure of strength. Baking tests are impractical for use in routine wheat inspection because of the time required, the expense of equipment, and the lack of sufficient objectivity in the tests.

The Farinograph, Mixograph, Alveograph and other mechanical dough testing devices are also to indicate wheat strength. Mechanical dough testing devices yield much information of value to the baker but are of limited value in measuring actual strength. Also, this type of equipment has not been adequately standardized.

Wheat quality is the perennial, persistently-sought goal of the grain man and the miller. When they make new achievements in the field of wheat quality the baker benefits. Recent interest in the sedimentation test for wheat quality has fostered a need for a non-technical explanation of that test. Dr. Zeleny has prepared just such an explanation, published in bulletin form, from which this article is taken. Dr. Zeleny is chief of the standardization and testing branch, grain division, Agricultural Marketing Service of the U.S. Department of Agriculture. He also is a past president of the American Association of Cereal Chemists.

Sedimentation Test

The sedimentation test has been designed as a simple and rapid way to estimate strength of wheat. It does not require the elaborate milling equipment usually needed for bread-baking or dough-mixing tests. The test may be completed in 15 min. or in an average time of about 5 min. when a number of tests are made simultaneously. The equipment required is relatively simple and inexpensive. When all details of the procedure are followed, there is no serious difficulty in obtaining good agreement among different operators making the test.

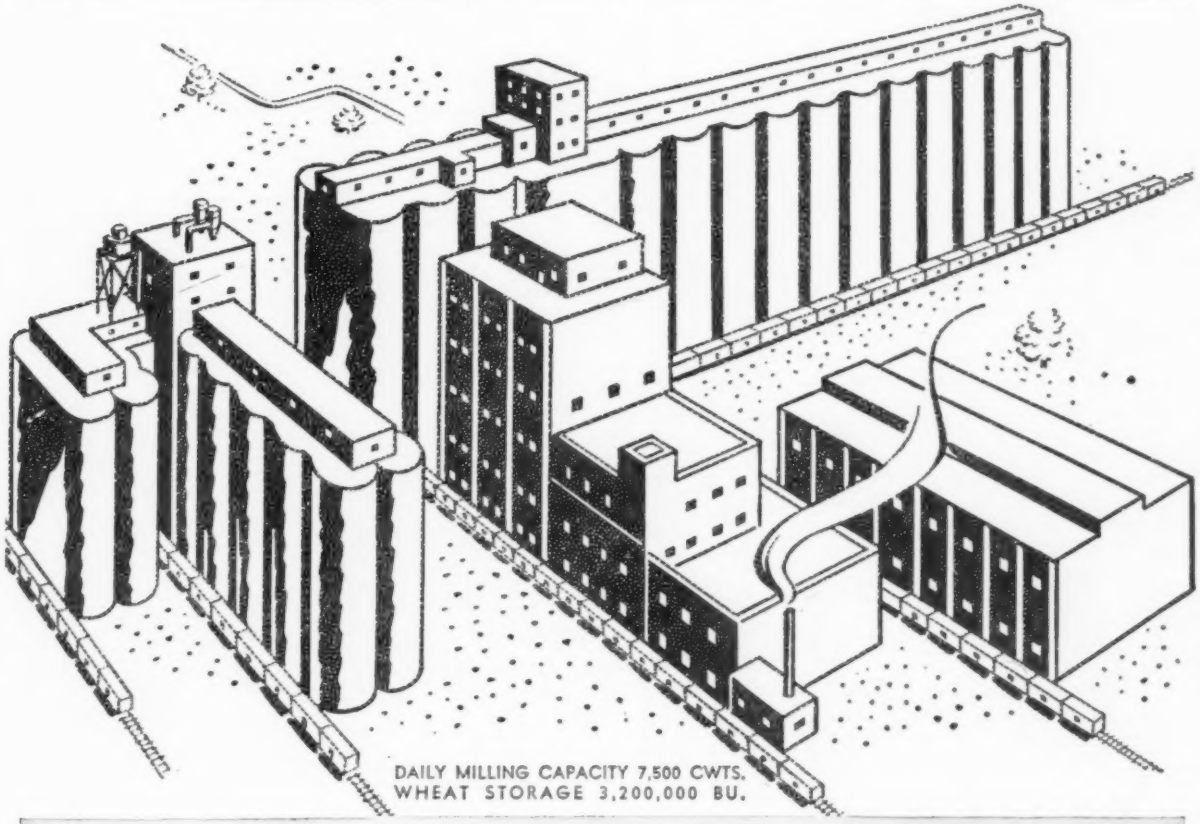
The test is based on the known facts (1) That gluten protein absorbs water and swells enormously when treated with lactic acid under certain conditions, and (2) that the amount of water absorbed and consequently the extent of swelling depends on the "quality" of the gluten. Good quality gluten (from a bread-baking standpoint) absorbs more water and thus swells more than poor quality gluten.

In making the sedimentation test, a crude white flour is first made by grinding and sieving about 200 grams of wheat, using prescribed equipment and procedures. A small weighed portion of the flour is mixed with water and a lactic acid reagent in a glass cylinder. The cylinder is then allowed to stand for exactly five minutes.

Then the volume of the "sediment" in the cylinder is read in milliliters. The volume of the sediment depends largely on the quantity of gluten in the wheat and the extent to which the gluten is swollen (gluten quality). The test, therefore, is a combined measure of the quantity and quality of gluten which, as stated, are the principal factors involved in wheat strength. The sedimentation test should, therefore, be a better measure of wheat strength than any test which measures only gluten quantity or gluten quality alone.

Thousands of comparisons have been made between sedimentation values and bread-baking tests over a period of years, and highly significant correlations have nearly always been

"If it's I-H milled it's good flour"



DAILY MILLING CAPACITY 7,500 CWTS.
WHEAT STORAGE 3,200,000 BU.

Again in the new crop year just ahead, we will be milling I-H flours from the finest, choicest of wheats. Our experienced wheat buyers, our expert chemists and our laboratory technicians who are skilled test bakers —all combine their efforts to guard with care the well-known I-H quality.

I-H

The ISMERT-HINCKE Milling Company

KANSAS CITY, MISSOURI

Sedimentation Test (Continued)

found when straight-dough bread-baking tests were used.

Although the sedimentation test cannot be considered to be a wholly accurate test for wheat strength, all evidence indicates that it usually provides a better measure of the over-all bread-baking strength of wheat than any other known test except an actual bread-baking test.

Range of Values

Sedimentation values range from about three for very weak wheat up to about 70 for the stongest wheat. Following is a suggested classification of wheat based on sedimentation values, including general statements concerning the characteristics of wheat in each range:

1. Sedimentation values of 60 and over: This wheat consists almost entirely of hard wheat (other than durum wheat) and is nearly always of high protein content, usually over 14 percent, and of superior gluten quality. It has superior baking strength and is suitable for mixing with weaker wheat for the production of bread flour, or for milling the very strong flour demanded by a small segment of the bread-baking industry. In normal years this type of wheat is in short supply and commands a considerable premium. Hard wheat of recognized weak varieties rarely, if ever, falls into this range.

2. Sedimentation values of 40 to 59: This wheat consists almost entirely of hard wheat (other than durum wheat) and is of the type most widely used for production of bread flour. The protein content of the wheat is usually from 12 to 14%, and the quality of the gluten is usually good. Hard wheat of recognized weak varieties falls into this range only when of very high protein content and, consequently, of at least reasonably high bread-baking strength.

3. Sedimentation values of 20 to 39: This wheat consists largely of low protein content hard wheat such as that produced east of the Mississippi River and on the Pacific Coast. Hard wheat of recognized weak varieties, even though of fairly high protein content, as well as some soft wheats of the highest protein content, also fall into this range. Included also in this range is hard wheat that has suffered gluten injury as a result of unfavorable weather conditions prior to harvest. Wheat in this range is best suited to the production of "all-purpose" flour or for use in mixing with stronger wheat for the production of bread flour.

4. Sedimentation values of less than 20: This wheat consists almost entirely of soft wheat but may contain some hard wheat of exceptionally low protein content or exceptionally weak gluten quality. The wheat is used primarily for the production of cake, pastry, cookie, and cracker flours.

Mills Using Test

The sedimentation test is being used successfully by a number of U. S. flour mills for binning and blending bread wheats, and is also being used by most flour mills in West Germany. The test is said to be used as the basis for binning wheat in Western Australia.

It is probable that increased use of the sedimentation test may soon be made in filling contracts of foreign buyers of U. S. wheat.

» »

Bibliography

Zeleny, Lawrence—A Simple Sedimentation Test for Estimating the Bread-baking and Gluten Qualities of Wheat Flour; Cereal Chem. 24(6): 465-475 (1947).

Anderson, J. A.—Bread Wheat Prediction Tests; report of Grain Research Laboratory, Board of Grain Commissioners for Canada, pp. 7-8 (1956).

Harris, R. H., and Sibbitt, L. D.—Relations Between Wheat Protein Content, Loaf Volume, Expansion Volume and Sedimentation Value. I. Plant Breeders' Samples; Cereal Chem., 33(1): 74-78 (1956).

Haertlein, H.—Behavior of the Most Important Argentine Wheat Varieties in the Zeleny Sedimentation Test; Getreide und Mehl, 6:32-3 (1956).

Karacsonyi, L. P.—Determination of Wheat Quality on the Basis of 4 Grams of Flour; A Critical Study on Zeleny's test; Novenytermeles 5:27-38 (1956).

Pinckney, A. J., Greenaway, W. T., and Zeleny, Lawrence—Further Developments in the Sedimentation Test for Wheat Quality; Cereal Chem., 34(1):16-25 (1957).

Zeleny, Lawrence, Greenaway, W. T., Gurney, Georgia M., Fifield, C. C., and Lebsock, Kenneth—Sedimentation Value as an Index of Dough-Mixing Characteristics in Early-Generation Wheat Selections; Cereal Chem., 37(5): 673-678.

Seibel, W.—Bestimmung der weizenqualitat mit dem Sedimentationswert nach Zeleny; Getreide und Mehl, 10:117-120 (1960).

Sedimentation Test Certificates

Sedimentation test certificates which may help sell U.S.-grown wheat abroad were made available as of July 1, according to an announcement by the U.S. Department of Agriculture. Inspection and certification are provided for in amendments to regulations under the Agricultural Marketing Act of 1946. The grain division of USDA's Agricultural Marketing Service, in cooperation with other agencies or persons, will inspect wheat and certify its sedimentation value when requested by an interested party. If there is no cooperating agency in a market to perform the service, the grain division will perform it. The test is entirely voluntary. Information about the sedimentation testing service can be obtained from the director, grain division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington 25, D.C., or from the June 24 issue of the Federal Register.

• • •

The Japanese Food Agency is also interested in the sedimentation test. A report from Japan states that the agency is planning to buy equipment for inspecting wheat sedimentation value so that it may study feasibility of including the sedimentation value in its specifications for wheat in the future. According to the plan, the equipment, expected to arrive in Japan by the end of the year, will be placed not only at the food agency's head office but also at its local offices in major ports of import.

Simon to Erect Third Flour Mill In Philippines

Work is scheduled to begin soon on a new flour mill at Pulupandan on the island of Negros, Republic of the Philippines. A contract valued at more than $1 million has been awarded to Henry Simon, Ltd., the mill engineering firm of Cheadle Heath, England, to do the job for the owners, Progressive Flour Mills.

Of concrete construction, the facility will consist of a pneumatic intake plant of 100 tons an hour; a block of 10 elevators; screenroom, mill, and a bulk storage and high-speed packing plant. A cereal laboratory will also be constructed.

The Pulupandan mill is the third to be built by Simon in the Philippines. The initial plant was built near Manila for Wellington Investment & Manufacturing Corp. Simon also constructed a mill near Cebu for General Milling Corp. of Manila.

At Pulupandan, the owners will supply their own power, for which Simon will install diesel alternator sets driven by three main engines. The operation will be electrically controlled from panels conveniently situated on each of the main floors. The entire process will be automatic from intake to warehouse. «

THE NAME IS ITALIAN

Modern San Remo Baking Plant Opens Near Stockholm, Sweden

Combine the practical nature of the Swedish people with the delightful romanticism of the Italians—mix in the superb baking talents of both—and you have an unbeatable combination.

The bakery only recently opened, and it's in Sweden. It has an Italian name, San Remo, and is spankingly new and modern to the nth degree.

The San Remo plant, owned and operated by the Swedish firm of Konsum, is at Vastberga near Stockholm. It is equipped with more than $200,000 worth of bakery machinery supplied by overseas subsidiaries of American Machine & Foundry Co.: AMF-Simon, England; AMF-SASIB, Bologna, Italy, and AMF-Bakovenbouw Den Boer, Dordrecht, Holland.

LOOKING AT SOME of the American Machine & Foundry Co. equipment at the opening of Sweden's San Remo baking plant are, left to right: Gordon O. Fraser, executive vice president of AMF International; Gosta Netzen, Sweden's minister of agriculture; Carl Albert Andersson, lord mayor of Stockholm, and Franco Fusaro, mayor of San Remo, Italy

Comprising an area of 210,000 sq. ft., the San Remo baking plant has four production lines for baking bread, biscuits, cakes and Swedish "Rusks." The plant has a capacity to produce 125,000 loaves of bread a week, 10 tons of cookies a day and 16,000 pastry buns daily.

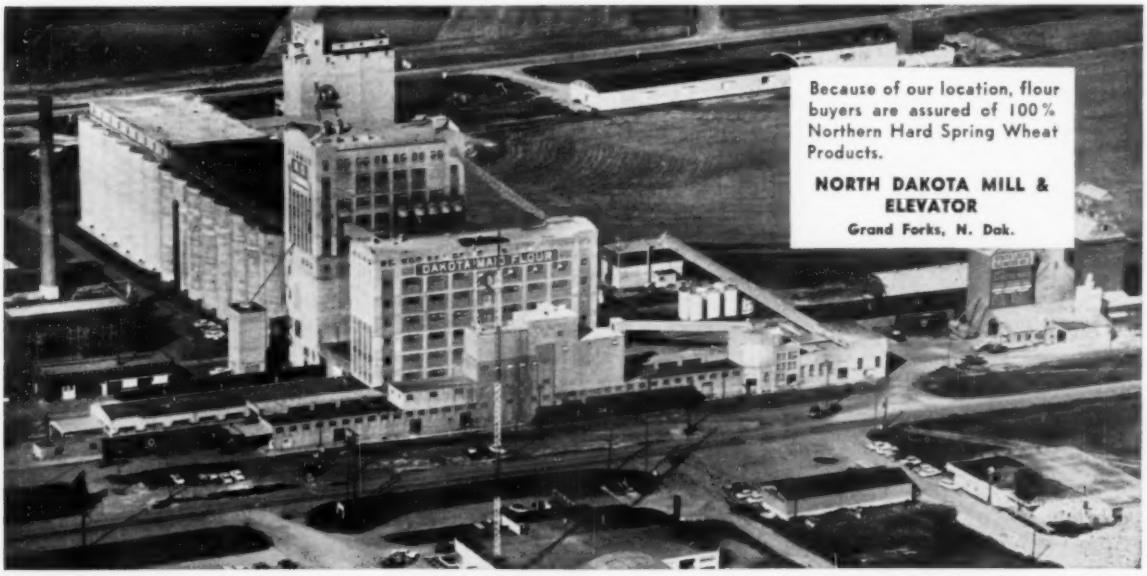
Among the notables who attended the new plant's opening were Sweden's Prince Bertil; the country's minister of agriculture, the lord mayor of Stockholm, and the mayor of San Remo, Italy.

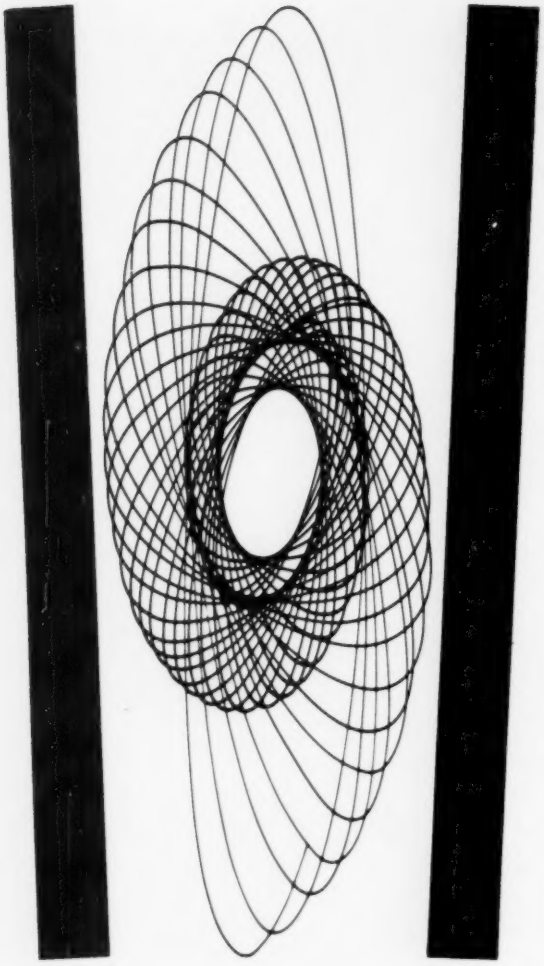
The manner in which a Swedish bakery was given an Italian name has a bit of romanticism to it: In 1938 the Swedish composer, Evert Taube, wrote a song with the title "The Gay Baker in San Remo." The song is still remembered fondly by Sweden's bakers, because it has a line which goes, "The gay baker in San Remo . . . bakes the best bread."

So, the owners apparently decided, what name could be more appropriate for their bakery than San Remo? «

BAKING FIRMS FRANCHISED

Van de Kamp's Holland Dutch Bakers, Los Angeles, and Miller Patton Baking Co., Rockford, Ill., have been franchised as exclusive Sunbran Bread bakers for their respective territories. Announcement of the franchise was made by Specialty Bakers Services, Inc., Chicago. «


Because of our location, flour buyers are assured of 100% Northern Hard Spring Wheat Products.
NORTH DAKOTA MILL & ELEVATOR
Grand Forks, N. Dak.



Longer shelf life for your cakes from Pillsbury **Sno Sheen...** because it's

TURBO-MILLED!

The key to Pillsbury's exclusive "Turbo-Milling"—air classification

By this special process—which begins where conventional milling ends—harnessed "hurricanes" of air separate flour into various fractions. These in turn are reassembled into totally new flours, each designed to meet specific baking needs. Thus, in milling wheat for Sno Sheen, only those fractions that make favorable contributions to cake-baking performance are retained.

Cakes stay more moist because you start out with more moisture

The moister the cake, the longer it lasts. Cakes baked with Sno Sheen contain—and retain—more moisture because "Turbo-Milling" lets the flour absorb more liquid in your formula to begin with.

Greater yield, finer texture

Since Sno Sheen absorbs more liquid in your cake formula than do conventionally milled flours, it yields more cakes. Better cakes, too: more velvety texture, brighter crumb color—because "Turbo-Milling" controls fineness of granulation as never before.

Day-in, day-out uniformity

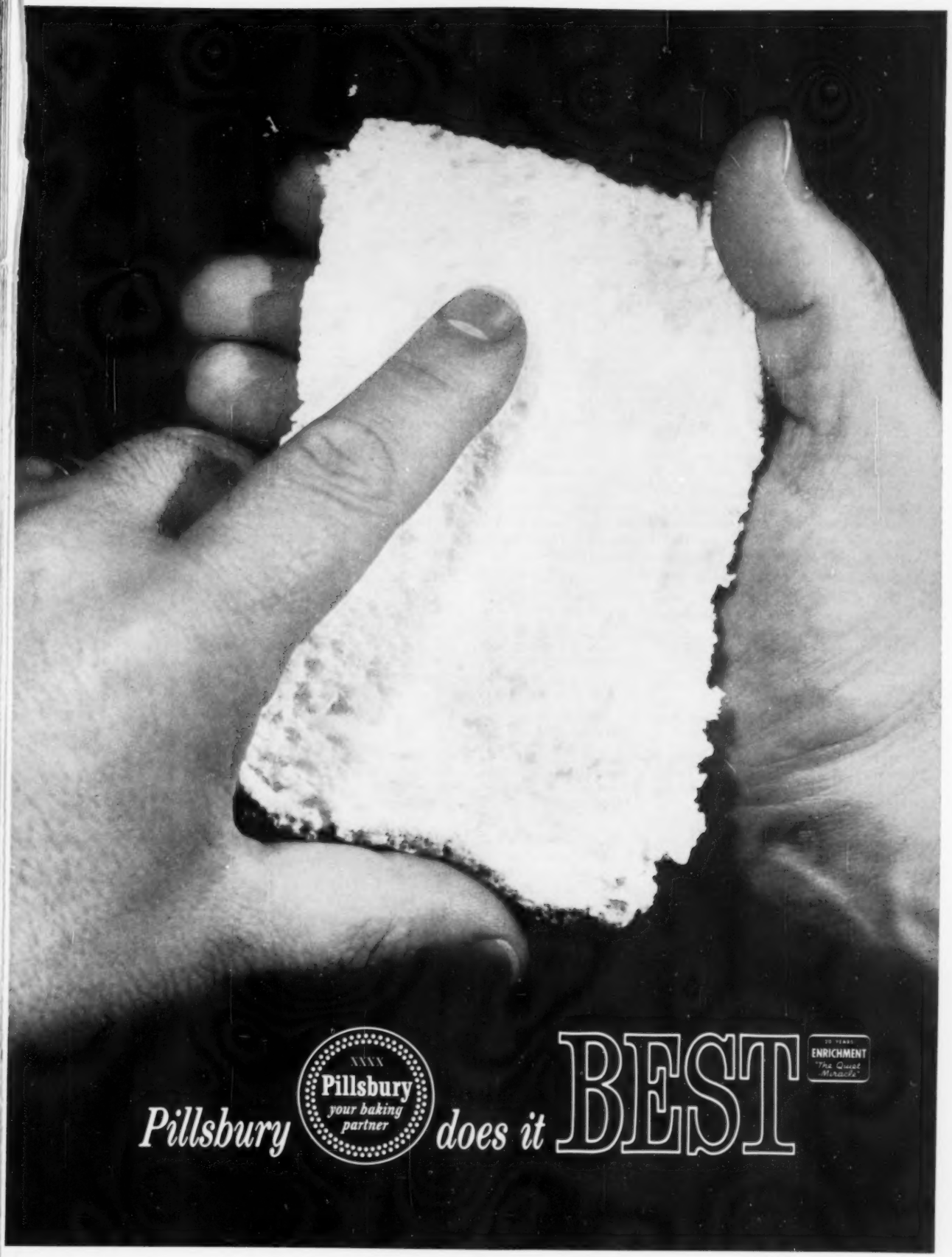
Never again will you have to make costly changes in your baking formulas when you get a shipment of "new crop" flour. "Turbo-Milling" lends nature (and you) a helping hand by leveling out crop changes . . . minimizing adverse influences of climate, soil and constantly changing wheat quality.

Each shipment of "Turbo-Milled" Sno Sheen you get, from year to year, will perform like the last one, regardless of the nature of the current wheat crop.

Each batch of cakes you bake from week to week will be exactly like the last one: the BEST.

Pillsbury made sure it would be that way—before introducing the first "Turbo-Milled" flours six years ago.

The only "Turbo-Milled" high-ratio cake flour: Sno Sheen.


XXXX
Pillsbury
your baking
partner
Pillsbury does it BEST
20 YEARS
ENRICHMENT
"The Quiet Miracle"

WHERE THEY ARE MEETING

July

July 13-17—Bakery Equipment Manufacturers Assn., annual meeting; Bedford Springs Hotel, Bedford Springs, Pa.; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

July 16-19—West Virginia Bakers Assn., 1961 convention; the Greenbrier Hotel, White Sulphur Springs, W.Va.; sec., Mrs. Edward R. Johnson, 611 Pennsylvania Ave., Charleston 2, W.Va.

August

Aug. 7—Indiana Bakers Assn., annual golf party; Speedway Golf Course, Indianapolis; sec., F. A. Doll, 1941 E. 30th St., Indianapolis.

Aug. 19—District 14, Association of Operative Millers; Denver, Colo.; sec., John Streit, Wallace & Tiernan, Inc., Denver.

September

Sept. 8—District 4, Association of Operative Millers; Minneapolis, Minn.; sec., W. R. Carter, R. J. S. Carter Co., 1219 Flour Exchange, Minneapolis 1, Minn.

Sept. 8-9—District 7, Association of Operative Millers; Lake Murray Lodge, Ardmore, Okla.; sec., Henry H. Stark, Ross Machine & Mill Supply Co., Oklahoma City.

Sept. 15-16—District 2, Association of Operative Millers; Aladdin Hotel, Kansas City, Mo.; sec., George Smutny, Entoleter, Inc., Kansas City.

Sept. 17-18—Wisconsin Bakers Assn., annual convention; Plankinton House, Milwaukee, Wis.; sec., Fred H. Laufenburg, 6173 Plankinton Bldg., 161 W. Wisconsin Ave., Milwaukee 3.

Sept. 17-19—Southern Bakers Assn., annual production conference, Atlanta Biltmore Hotel, Atlanta, Ga.; sec., Benson L. Skelton, Henry Grady Bldg., 26 Cain St., N.W., Atlanta 3, Ga.

Sept 23—District 8, Association of Operative Millers; Prudhommes Lodge, Vineland, Ont., Canada; sec., Roy F. Kehr, Kressilk Products, Inc., Depew, N.Y.

Sept. 23-24—Kansas Bakers Assn., fall meeting; Lassen Hotel, Wichita; sec., Warren Burke, 3232 Roanoke Rd., Kansas City, Mo.

Sept. 23-25—Southwest Bakers Assn., annual convention; Hilton Inn., El Paso, Texas; sec., Ralph Kilgore, P.O. Box 127, Albuquerque, N.M.

Sept. 23-26—New Jersey Bakers Board of Trade, anniversary convention and exhibition; Essex House Hotel, Newark, N.J.; sec., Michael Herzog, 48 Cleremont Ave., New Brunswick, N.J.

Sept. 24-26—Kentucky Master Bakers Assn., annual convention; Sheraton Gibson Hotel, Cincinnati, Ohio; sec., Al Wohlleb, 743 Loretto St., Louisville 11.

Sept. 29-30—District 9, Association of Operative Millers; Davenport Hotel, Spokane, Wash.; sec., Richard Schmidt, Centennial Mills, Inc., Spokane.

October

Oct. 4-7—National Bakery Suppliers Assn., annual meeting; Hotel Shelburne, Atlantic City, N.J.; sec., William Effron, Effron Bakery Supply Co., Poughkeepsie, N.Y.

Oct. 7-12—1961 Baking Industry Exposition; Convention Hall, Atlantic City, N.J.; sec.-treas., Harold Fiedler, 20 N. Wacker Drive, Chicago 6, Ill.

Oct. 13-14—District 6, Association of Operative Millers; Lowell, Mich.; sec., Oscar J. Nelson, King Milling Co., Lowell, Mich.

Oct. 20-21—District 3, Association of Operative Millers; Danville, Ill.; sec., Hollis Maun, Jr., M.M.C. Sales Corp., Dover, Ohio.

Oct. 21-22—Nebraska Bakers Assn., annual convention; Sheraton Fontenelle Hotel, Omaha, Neb.; sec., L. F. O'Konski, Jr., 1806 Chicago St., Omaha.

Oct. 27-28—District 11, Association of Operative Millers; Barringer Hotel, Charlotte, N.C.; sec., James N. Campbell, Sterwin Chemicals Inc., Charlotte, N.C.

November

Nov. 6—Connecticut Bakers Assn., annual convention; Roger Smith Hotel, Waterbury; sec., Charles Barr, 584 Campbell Ave., West Haven 16, Conn.

Nov. 13-14—Washington Association of Wheat Growers, annual convention; Walla Walla, Washington; sec., Geo. W. Johnson, Ritzville, Wash.

Nov. 13-14—New England Bakers Assn., fall convention; Sheraton-Plaza Hotel, Boston, Mass.; sec., William E. Bowman, 945 Great Plain Ave., Room 9, Needham 92, Mass.

Nov. 17-18—District 12, Association of Operative Millers; Newhouse Hotel, Salt Lake City, Utah; sec., Joseph J. Keiser, Salt Lake City Flour Mills, Salt Lake City.

December

Dec. 9—District 2, Association of Operative Millers; Aladdin Hotel, Kansas City, Mo.; sec., George Smutny, Entoleter, Inc., Kansas City.

CALENDAR FOR 1961-62

JULY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

OCTOBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

DECEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

MARCH

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

1962

January

Jan. 16-18—Hard Red Winter Wheat Workers, annual conference; Kellogg Center, Lincoln, Neb.; chairman, A. M. Schlehuber, Oklahoma State University, Dept. of Agronomy, Stillwater, Okla.

Jan. 28-30—Potomac States Bakers Assn., annual convention; Lord Baltimore Hotel, Baltimore, Md.; pres., Charles J. Schupp, 126 Mathieson Bldg., Baltimore 2.

February

Feb. 11-13—Pennsylvania Bakers Assn., annual convention; Bellevue Stratford Hotel, Philadelphia, Pa.; sec., Theo. Staab, 600 N. Third St., Harrisburg, Pa.

April

April 9-11—Texas Bakers Assn., annual convention; Hotel Texas, Ft. Worth; sec., Guy Lichyter, 1121 National Building, Dallas 1, Texas.

April 26-28—Southern Bakers Assn., annual convention; Boca Raton Hotel, Boca Raton, Fla.; sec., Benson L. Skelton, Henry Grady Bldg., 26 Cain St., N.W., Atlanta 3, Ga.

April 29-May 2—Millers National Federation, annual convention; Hotel Olympic, Seattle, Wash.; sec., John J. Sherlock, 309 W. Jackson Blvd., Chicago 6.

May

May 14-17—Association of Operative Millers, annual technical conference and trade show; Denver-Hilton Hotel, Denver, Colo.; exec. vice president, Donald S. Eber, 639 Board of Trade Bldg., Kansas City 5, Mo.

District 9, AOM, Plans September Session

Pacific District 9, Association of Operative Millers, will hold its 25th annual meeting Sept. 29-30 at the Davenport Hotel, Spokane, Wash., and a program certain to be of interest to all is taking shape.

The evening of Sept. 29 is expected to feature an allied trades reception and get-together for millers and allied tradesmen.

For the district program, William D. Rowan, General Mills, Inc., chairman, has assigned William H. Buffum, Centennial Mills, Inc. H. W. Meyers, National Biscuit Co., will handle arrangements, assisted by William Sloan, Centennial Mills; Leonard Kosderka, Spokane Flour Mills Co., and James E. Butler, Centennial Mills.

District 9 will again sponsor an essay contest this year, with a first prize of $75 and a second award of $50. Plans also are in the making to send the two top essays to a four-district essay contest sponsored by the Pacific Millers Assn.

Christian Kongsore, Fisher Flouring Mills Co., is chairman of the essay contest, and entries should be sent to him, c/o Fisher Flouring Mills, Harbor Island, Seattle, Wash., by Sept. 15.

To handle its other activities for the year, the district has named: Walter O. Ward, Centennial Mills, membership chairman; Curtis P. Lindley, Centennial Mills, chairman of the scholarship committee, assisted by Elmer Holtz, Igleheart Bros., division of General Foods Corp., and Mr. Kongsore. «

THESE FELLOWS, apparently well fed and having a fine time, are pictured at the 20th annual spring wheat millers' golf party held at the Winona (Minn.) Country Club. Host for the traditional get together was Bay State Milling Co., headed by Paul B. Miner, executive vice president-general manager, and C. R. Stephenson, general sales manager. The outing, buffet lunch and a dinner drew about 50 millers from Minneapolis, other parts of Minnesota, Wisconsin, Illinois, Colorado and Montana. Prizes were won by Mark Heffelfinger, Russell Miller-King Midas Mills; Bruce Cruzen, the Pillsbury Co.; J. W. Pehle, Russell Miller-King Midas, and D. H. Wilson, Eckhart Milling Co.

KELLY-
ERICKSON-
JONES
Company
•
OMAHA
NEW YORK SAN FRANCISCO
•
We Operate Our Own Laboratories
Including Pilot Bakery

YEARS AGO

From the Files

Of THE MILLER

By Sarah Yocom

I WONDER HOW many of us who remember, or at least have memories of stories told of the brass band (John Philip Sousa style), red, white and blue bunting, and soap box 4th of July celebrations of the past, observed the holiday this year with a sigh and a wish for some of the color and patriotic ardor and fellowship of the "good old days."

Naturally, none of us would wish to return to the more obvious inconveniences of the past, but we should also admit that somewhere along the line, the glorious 4th has lost something in the translation. I for one, do remember various relatives expounding on the political and patriotic speeches which were delivered from the perennial soap box on the July day-of-days, and wondered if the 1876 Northwestern MILLER would observe any facet of the celebrations in print.

If you ever doubted that millers were masters of rhetoric and possessed a touch of the dramatic, these excerpts from the July 7, 1876 issue should be proof of the pudding.

85 YEARS AGO . . .
July 7, 1876

The headline reads: "An Oration by S. C. Barton: Old Socrates 'Out-Socked' by the Merchant Miller at Peterson, Minnesota."

Here are some excerpts:

"Today completes our first century as a nation—a single drop, as it were, in the ocean of time. In recounting our progress, in noting our achievements, I shall not go into the temple to thank God we are not as other men, but shall endeavor to remember that we have some of the infirmities of the poor publican as well. . . . I leave that for abler pens than mine, and can only drop a tear of gratitude on their graves, trusting that posterity will see that they suffer no wrong at her hand. . . .

"These one hundred years have seen more advancement in the arts and sciences; have done more for the moral and mental elevation of man; have added more to the sum total of human happiness than all the other years the world has ever seen. . . .

"Let us not, therefore, think of being a military nation, remembering that the broad Atlantic lies between us and harm; let us train our children for the harvest of the field, rather than the battlefield; let us train them under the kind and genial influences of pleasant homes and organized schools . . . let us early train them to habits of industry, however crude and uninviting their labor may seem, rather than rear idleness. . . .

"Let us learn that industry and economy, coupled with a reasonable intelligence are the only true sources of wealth, and that capital their sure result, and that there is no poverty like that poverty of idleness. . . . By these means, if by any, short of the miraculous power, is this nation to preserve its financial integrity and rank foremost among the nations on earth. . . .

"I can only say in conclusion that a glorious future is before us if we but heed the admonition of the past. However brief, imperfect, and unsatisfactory these few remarks of mine may have been, I find myself nevertheless truly grateful for the opportunity of addressing you on this occasion, and tender you my most sincere thanks for the partiality you have shown me."

Odds 'n' Ends—

50 YEARS AGO . . .
July 5, 1911

This afternoon George Roffey, the chairman of the Corn Exchange Co., London, delivered a happily phrased speech on the Exchange with reference to the coronation of King George and Queen Mary tomorrow, which was received with great applause. He also read a telegram of congratulation which the Corn Exchange is sending to their majesties on the occasion of their coronation.

The proceedings concluded with an excellent rendering of the National Anthem by an amateur choir. (Dated June 21, 1911)

●

The Russell-Miller Milling Co., Minneapolis, has issued an attractive booklet to circulate among consumers. After setting forth the superior value of bread as a food, it gives interesting details as to milling, and in no indefinite terms presents the strong points of the company's flour.

●

25 YEARS AGO . . .
July 8, 1936

A. W. Mears, president of White & Co., Baltimore flour brokers, spent a day at the company's New York offices last week. He was still enthused over his recent fishing trip to Florida and showed some snapshots of the ones that didn't get away, that looked as if they might be enlargements.

●

A portion of the original millstone purchased by John Neff, Sr., from Brigham Young at Winter Quarters (Omaha) in 1847, and used in his frontier grist mill in Mill Creek, Utah, will be erected into a monument marking the site of the first mill in Utah which produced refined flour.

●

10 YEARS AGO . . .
July 10, 1951

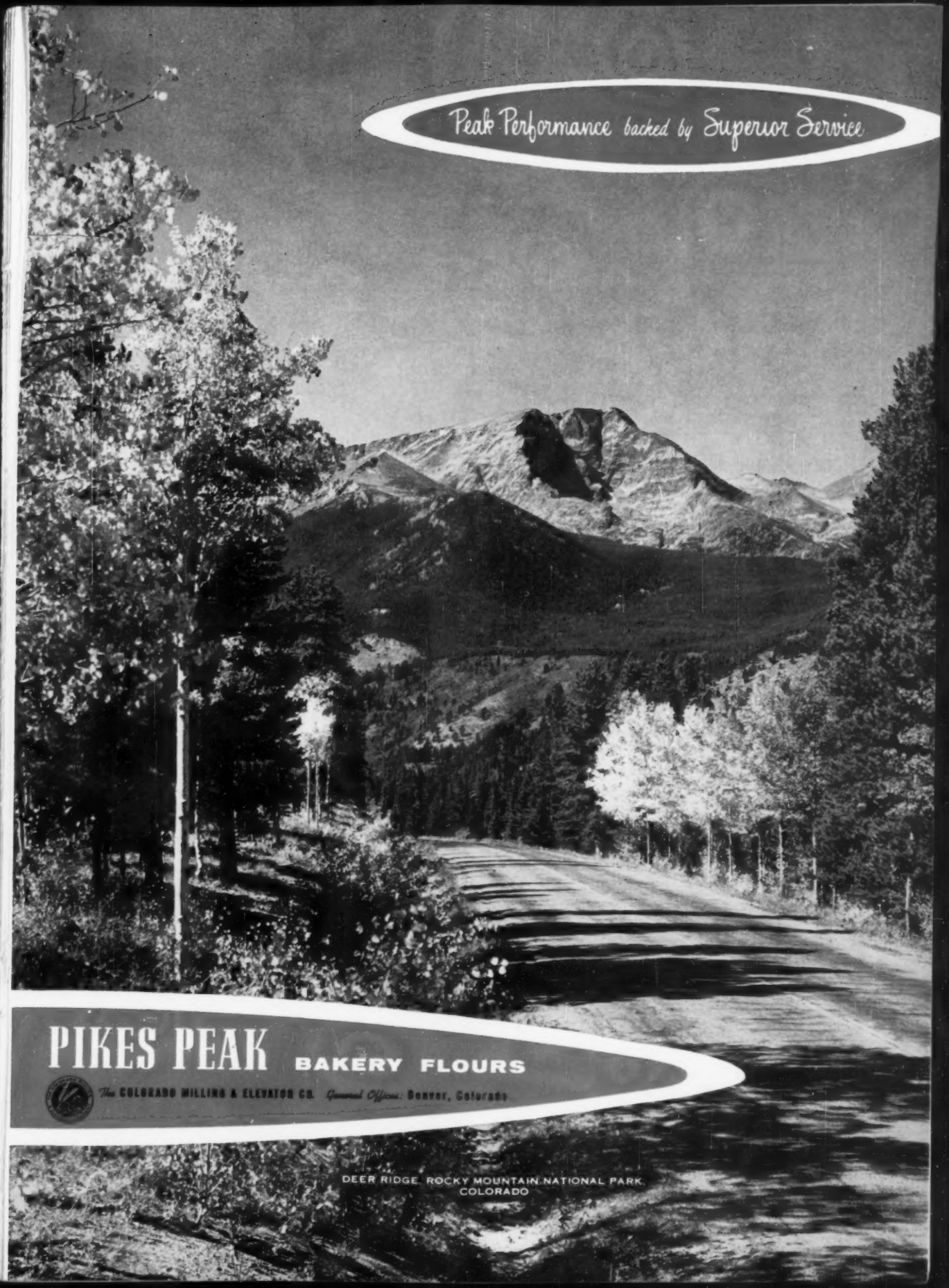
A firm believer in "whatsoever a man soweth that also shall he reap," E. N. Puckett, manager of the Union Equity Cooperative Exchange, Enid, planted wheat on a 16-acre plot for charity and has harvested 530 bu. or an average of 33 bu. per acre when nearby yields ranged from 5 to 10 bu. Mr. Puckett said the wheat is certified pure Comanche, and that he will sell it for seed because it will bring a premium price. "Then I'll use that money to buy other wheat to ship to Korea through the Church World Service," he said.

●

J. Hamilton Duff of Sidney Smith (Flour, Feed and Grain) Ltd., of London was appointed president of the British National Association of Flour Importers, Ltd., at the annual general meeting. J. B. Russell, D. T. Russell & Baird, Ltd., Glasgow, Scotland, was appointed vice president.

●

W. E. Long, founder of the W. E. Long Co., bakery service organization, has announced his retirement from active participation in the affairs of the company and his resignation from the position of the chairman of the board of directors. Following Mr. Long's announcement of retirement, Gerard Williams, president of the Williams Baking Co., Scranton, Pa., spoke on behalf of the more than 100 independent bakers assembled in the meeting in paying tribute to Mr. Long. «


Peak Performance backed by Superior Service
PIKES PEAK BAKERY FLOURS
The COLORADO MILLING & ELEVATOR CO. General Offices: Denver, Colorado
DEER RIDGE, ROCKY MOUNTAIN NATIONAL PARK, COLORADO

"VENEZIA"
SEMOLINA
No. 1
Milled from Carefully Selected
AMBER DURUM WHEAT
AMBER MILLING DIVISION
Farmer Union Grain Terminal Association
St. Paul 1, Minnesota

George Urban Milling Co.
More Than 100 Years of Milling
BUFFALO, NEW YORK

STAR OF THE WEST MILLING COMPANY
Only Michigan soft white winter wheat flour
FRANKENMUTH, MICHIGAN

MENNEL
P.S.* for Hard Spring and Winter Wheat. Cake and Pastry Flours. Cracker and Cookie Flours.
* *Personalized Service*
THE MENNEL MILLING COMPANY
FOSTORIA, OHIO

Trouble Shooter

By A. J. Vander Voort
Technical Editor

Commercial Baking Problems

Cinnamon Bars

We have requests for chocolate cinnamon bars, and a good recipe. However, the recipe is in cups and spoons. Can you transpose it to pounds and ounces for us, then we will use our own recipe. Also, is it possible to roll out French croissants on a sheeter?—**H. D., Mo.**

A. J. Vander Voort

Here is the transposition of ingredients for the chocolate cinnamon bars from cups and spoons to pounds and ounces. Regarding the croissants, we have a machine of this type and find that it works very satisfactorily for rolling them out.

CHOCOLATE CINNAMON BARS

2 lb. 8 oz. flour
⅝ oz. baking powder
3 lb. sugar
2½ oz. cinnamon
1 lb. 4 oz. butter or margarine
1 lb. shortening
8 oz. eggs
2 oz. yolks
1 lb. 14 oz. semi-sweet chocolate
10 oz. chopped walnuts

Mix and sift together the flour, baking powder, 2 lb. sugar and 2 oz. cinnamon.

Add butter or margarine, shortening, eggs and yolks.

Then follow directions as given on your recipe.

Irish Bread

A number of our customers have asked us for Irish Bread. We would appreciate a formula and directions for preparation, if you are able to assist.—**M. R., Mich.**

Irish bread may be made from various white bread formulas, depending upon richness of the loaf desired. As a rule, this type of bread is made from a dough which is somewhat less rich than is used for making pan bread.

IRISH BREAD

50 lb. bread flour
1 lb. 8 oz. sugar (sucrose or dextrose)
1 lb. salt
2 oz. yeast food
1 lb. 8 oz. milk solids (non fat)
1 lb. yeast
1 lb. 8 oz. shortening
30 lb. water (variable)

Dough temperature 78-80° F. First punch 1 hr. 45 min.; second punch 45 min. To the bench in 15 min. Scale and round up. Allow to rest for about 15 min. and then make up into loaves with square ends. Place two loaves together, side by side, between cloths. Allow to proof and put into the oven like French bread. Do not cut the tops. Use plenty of steam in the oven. The loaves should split open very nicely. Sometimes better results are obtained by washing the loaves with water before they are peeled into the oven.

Irish bread is generally baked on the hearth; however, a number of bakers bake the loaves on bun pans. In this case the baker places six or seven loaves side by side on the pan; he allows them to proof and then bakes. This procedure will produce less crust, as only the two end loaves will be crusted on one side and the top. When the oven is slightly hot, this method offers some difficulty. The center loaves are very apt to be underbaked or the top crust becomes too dark when the center loaves are done.

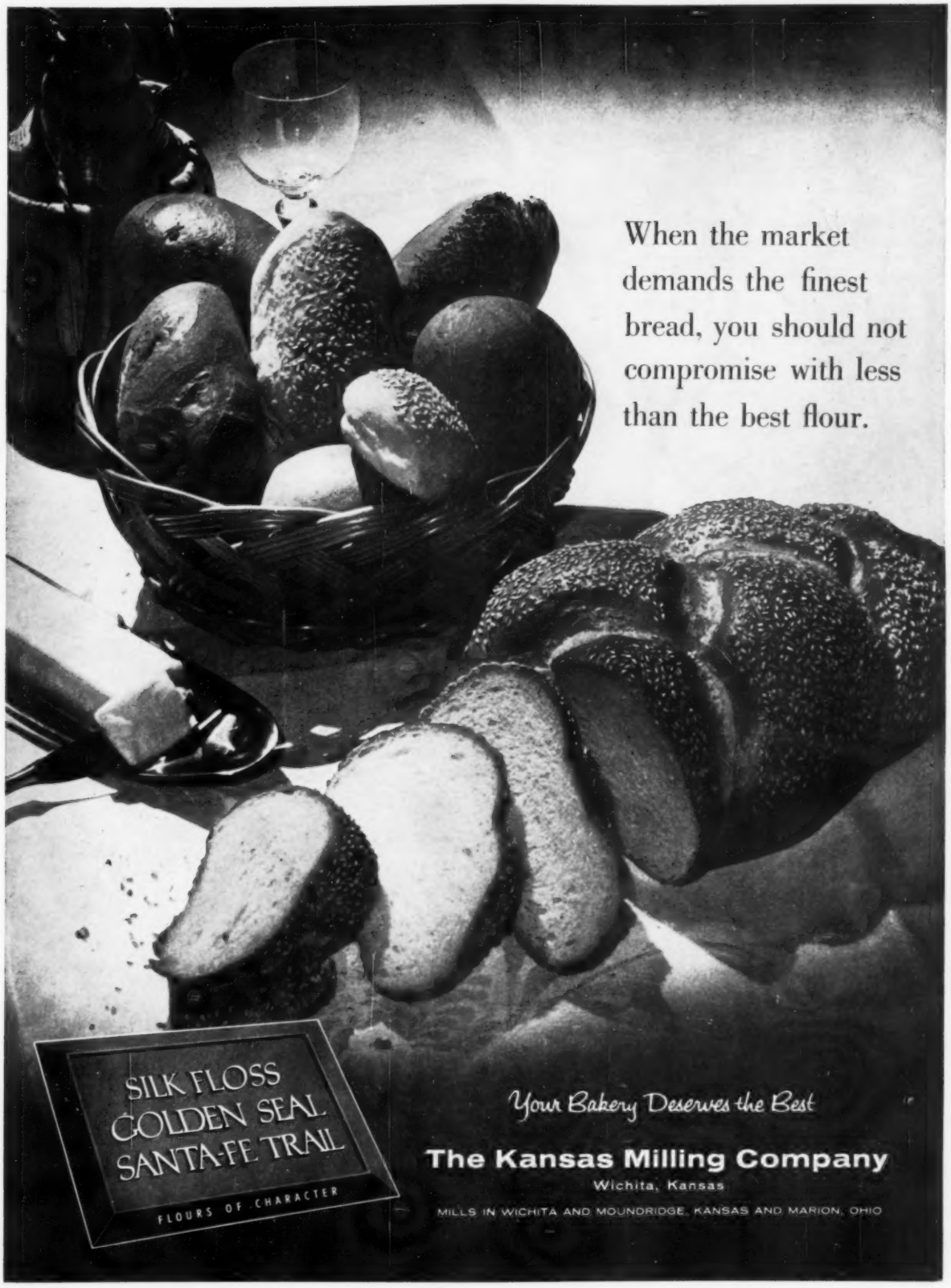
Angel Food Cakes

We recently ran across a recipe for making angel food cakes. This recipe called for 12 lb. egg whites. It also called for 1 lb. water. I have never seen an angel food recipe before that had water in it. What is the purpose in using it?—**R. T. L., Canada.**

It has been found that addition of this water will produce a more moist cake. It also seems to produce a slightly more tender cake. The addition of this water will cause a slight decrease in volume of the cakes. However, this can be compensated for by scaling them slightly heavier. The grain will be closer and the keeping quality improved.

Dutch Topping Bread

While visiting in New York I saw a loaf called Dutch Topping Bread. We would like to produce this type of


When the market demands the finest bread, you should not compromise with less than the best flour.
SILK FLOSS
GOLDEN SEAL
SANTA-FE TRAIL
FLOURS OF CHARACTER
Your Bakery Deserves the Best
The Kansas Milling Company
Wichita, Kansas
MILLS IN WICHITA AND MOUNDRIDGE, KANSAS AND MARION, OHIO

DAVID HARUM
"Regular" Bakers Flour
"THE WINTER WITH THE SPRING"
Milled in the Heart of Nebraska's Wheat Country
LEXINGTON MILL & ELEVATOR COMPANY
Lexington, Nebraska

DIXIE LILY
Plain and Self-Rising
A flour specially milled for the Southern housewife.
BUHLER MILLS, INC.
● Mill & Gen. Offices, Buhler, Kansas
● Southern Regional Office, 2695 Broad Ave., Memphis, Tenn.

FRANK H. BLODGETT, INC.
(SINCE 1848)
JANESVILLE, WISCONSIN
Millers of Rye and Buckwheat Flour

Evans Milling Co., Inc.
INDIANAPOLIS, IND U. S. A.
Manufacture Kiln-Dried
DEGERMINATED CORN PRODUCTS
Capacity, 16,000 Bushels

All Grades
RYE FLOUR
1000 cwts. Flour—250 cwts. Meal
GLOBE MILLING COMPANY
WATERTOWN, WISCONSIN

Michigan Soft Wheat Flour
Plain and Self-Rising
King Milling Company
LOWELL, MICHIGAN

CAHOKIA FLOUR CO.
ST. LOUIS, MO.

bread but do not have a formula for it. Will you be kind enough to supply us with one?—**D. E., N.J.**

Here are two formulas for making Dutch Topping Bread which you may wish to try. You will notice that both contain some eggs, which makes for better eating quality.

DUTCH TOPPING BREAD (No. 1)

15 lb. flour (bread)
8 lb. 8 oz. water (variable)
5 oz. yeast
4 oz. salt
6 oz. sugar (sucrose or dextrose)
4 oz. milk solids (non fat)
4 oz. malt
10 oz. egg yolks
4 oz. shortening

Use regular procedure for mixing the dough. Dough temperature is 80° F. Punch in about 2 hr. and 30 min. To the bench 1 hr. later. Scale and round up. Allow to rest for about 15 min. and make up.

When the loaves are about half proofed, cover tops with the following topping.

Mix together:
2 lb. water
3 oz. yeast

Add and mix in until smooth:
2 lb. rice flour
2 oz. sugar
4 oz. shortening
1 oz. salt

Finish proofing bread and then place in the oven, using plenty of steam.

Note: The topping should have the consistency of a cake batter.

DUTCH TOPPING BREAD (No. 2)

12 lb. bread flour
2 lb. pastry flour
8 lb. 8 oz. water (variable)
12 oz. milk solids (non-fat)
6 oz. shortening
8 oz. egg whites
5 oz. yeast
¾ oz. yeast food
6 oz. sugar (sucrose or dextrose)
3¾ oz. salt

Mix dough by the regular procedure, except for the egg whites, which should be beaten and added when the dough is about half way mixed. Dough temperature 80° F. First punch approximately 1 hr. 30 min. Second punch 45 min. later. Rest for 15 min. and then scale and round up. Give about 15 min. intermediate proof before making up. Allow to proof.

Just before the bread goes into the oven, cover tops of the loaves with the following Dutch Topping.

Mix together until smooth:
1 lb. 4 oz. rice flour
3 oz. sugar
3 oz. salt
1 lb. 8 oz. water
3 oz. yeast

Then add and mix in:
5 oz. melted butter

Allow this mixture to stand for about an hour before spreading it on top of the loaves. Use plenty of steam in the oven.

Ice Cream Rolls

One of our local ice cream companies has asked us to make chocolate rolls for them. These sheet cakes are to be used for making ice cream rolls. We have no idea of how to make them or the type of formula that should be used. Will you please give me complete information about this product?—**I. F., Colo.**

CHOCOLATE ROLL (No. 1)

Beat together:
1 lb. 4 oz. eggs
1 lb. 2 oz. sugar
½ oz. salt

When mixture is beaten stiff, add slowly:
¾ pt. boiling water

Then fold in:
11 oz. bread flour
3 oz. cocoa
Vanilla to suit

This mix will make two 18x26 in. papered pans. Bake at 375-400° F.

CHOCOLATE ROLL (No. 2)

Beat together:
1 qt. eggs
2 lb. sugar
1 oz. salt

Then mix together:
5 oz. cocoa
8 oz. honey or invert sugar
½ oz. soda
1 lb. 8 oz. hot water

When eggs are beaten enough, add the cocoa mixture slowly.

Then fold in carefully:
2 lb. 8 oz. cake flour
1½ oz. baking powder

This mix will make about three 18x26 in. papered pans.

After the sheets are baked, turn them over on clean cloths and allow to cool. When cold, spread soft ice cream over them about ⅛ to ¼ in. thick and roll up like jelly rolls.

Place these rolls in the refrigerator and when thoroughly chilled slice into desired thickness.

The main precautions are that the cake be made as soft as possible to prevent it from cracking; another is that they be baked in good level pans

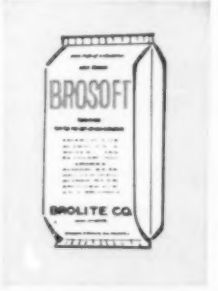
Valuable ingredients for bakers since 1928

Proved Products for Profitable Production

White & Cocoa Fudge Bases—Easy Handling for Hi-Gloss, Flat Type and Butter Cream Icings of fine flavor. Economical.

Brolite—For better flavor in Cakes, Cookies, Sweet Yeast Doughs, Icings.

Flufolite—Egg Stabilizer for use in Cakes, Cookies, Sweet Yeast Doughs and Rolls.



Brosoft—A tenderizing agent with high powers of emulsification and dispersion. Contains Mono- and Di-Glycerides, Lecithin.

O. B. Stabilizer—For Boiled Meringues, Toppings, Icings, Glazes, Butter Creams, Regular Meringues, Whipped Cream.

DEMONSTRATIONS BY OUR TRAINED BAKERY TECHNICIANS AVAILABLE IN YOUR SHOP

THE
BROLITE
COMPANY, INC.

General Offices: 2542 Elston Avenue, Chicago 47, Illinois • Brolite Company, Inc., 1016 Monroe Drive, N.E., Atlanta 6, Georgia
Brolite Company, Inc., 2921 South Haskell Avenue, Dallas 23, Texas • Brolite Company, Inc., 225 Park Avenue South, New York 3, N. Y.
Brolite Company, Inc., 621 Minna Street, San Francisco 1, Calif. • Brolite Company, Inc., 518 First Avenue, North, Seattle 9, Washington

STANDARD MILLING CO.
Millers of
Pep High Gluten
Staten Island Best
Bakery Flours

The
WILLIAM KELLY MILLING COMPANY
"KELLY'S FAMOUS" FLOUR
HUTCHINSON, KAN.
CAPACITY 5,500 Cwts. STORAGE 1,600,000 Bu.

Dependable Spring Wheat Flour
CORNER STONE ★ OLD GLORY
CHIEFTAIN ★ GOODHUE
Bulk or Sack Loading
LA GRANGE MILLS
RED WING, MINNESOTA

so that the finished rolls will be of uniform thickness.

Types of Water

Please explain to me the difference between soft water, hard water and alkaline water. Does the type of water the baker uses affect fermentation?—**A. R., N.D.**

Soft water is relatively free of minerals. Soft water quite often comes from springs or lakes fed by springs. In the mountain regions, the snow water is usually soft. Very soft water has a tendency to soften the gluten. This causes the dough to be soft and sticky. The addition of more salt is generally advocated. The use of mineral yeast food in the dough also helps to eliminate this condition.

Hard water contains the carbonates of magnesium or calcium. There are two kinds of hardness, one is called "temporary" hardness and the other "permanent" hardness. When temporary hard water is boiled, the carbonates will separate out and can be removed, thus making the water soft. In permanent hard water, the sulphates do not separate out when the water is boiled. A normal amount of carbonates has a strengthening effect on the gluten. The sulphates furnish mineral nutrition to the yeast. An extremely hard water retards fermentation by toughening the gluten too much. Using more yeast in the dough will help in overcoming this condition.

Alkaline water contains sodium carbonate. When the water contains appreciable amounts of alkaline, it has a weakening effect on the yeast. The addition of a small amount of vinegar or some other type of edible acid will aid in overcoming these disadvantages should it be necessary to use this type of water.

Fermentation

Please give us some information regarding sugar in doughs. We have been under the impression that, when sugar is put in a batch of dough, it helps the yeast work faster. If this is true, why do recipes for coffee cakes and sweet rolls require more yeast to ferment the dough the same length of time as a bread dough which contains considerably less sugar?—**H. M., N.H.**

Sugar in some form is very essential to fermentation of bread and roll doughs. Part of the sugar is changed into alcohol and carbon dioxide. This gas raises the dough. Up to three percent sugar speeds fermentation. Fermentation is retarded when over three percent sugar is used.

All other factors being equal, a dough containing three percent sugar will produce more gas in a normal time than a dough containing 10% sugar. To age a sweet roll dough properly in the same time as a bread dough will require the use of more yeast. This is due to the excess sugar acting as a preservative, or holding back the yeast action.

A good example of the preservative power of sugar is the fact that jams and jellies can be kept indefinitely exposed to air.

They are high in sugar and resist

WHAT'S YOUR PROBLEM?

From his many years of experience as a practicing baker and production authority, A. J. Vander Voort, head of the Dunwoody School of Baking and technical editor, has compiled a book of "trouble spots" now valued highly by the baking industry. The Bakeshop Trouble Shooter Book, now in its eighth printing, classifies hundreds of everyday problems and their solutions. For $2.00 bakers can have at their fingertips a quick source of information for discovering their problems and solving them. Copies may be purchased from the Reader Service Department, THE Northwestern MILLER, P.O. Box 67, Minneapolis 40, Minn. Readers are invited to submit their production problems either to this publication or to Mr. Vander Voort at Dunwoody, 818 Wayzata Blvd., Minneapolis 3, Minn.

CARGILL
CARGILL
200 GRAIN EXCHANGE, MINNEAPOLIS 15, MINNESOTA

"Best Out West" "Diamond D"
"Red Chief" "Wheats Best"
Four Top Notch Spring Wheat Flours—"Direct from the Wheat Fields to You"
Sheridan Flouring Mills, Inc., Sheridan, Wyoming

APPRAISAL SINCE 1925 SERVICE COMPANY
605 FOURTH AVENUE SOUTH
MINNEAPOLIS, MINNESOTA
FACTUAL PROPERTY VALUATIONS

bacterial and yeast action. Sugar is added to milk to increase keeping qualities.

Sweetened condensed milk will sour (which is a form of bacterial growth), and sometimes sweetened condensed milk will start fermenting, if left exposed to open air so that wild yeast spores can settle in it.

Top Crust Cracks

We are having trouble with the top crust of our bread cracking. When the bread goes through the slicing machine the cracked tops cause a great amount of crumbs, as well as giving the loaves a poor appearance. Do you think this trouble is caused by inferior ingredients or by an unbalanced formula?—**F. J., Mass.**

The condition you describe is known as "checking." This may occur even though you use the best of ingredients and a well balanced formula. The most comon cause is too much top heat in the oven. The next most common cause is improper cooling of the loaves. If the bread is allowed to cool in a draft it will have a tendency to "check." Placing the freshly baked bread in a room which is too cold for slow, uniform cooling may result in your trouble.

The ideal condition is to place the freshly baked bread in a cooling room where both temperature and the humidity are controlled. «

Scholarship Honors Dr. R. C. Sherwood

An annual scholarship at the University of Minnesota has been set up to honor a man who has given his career to advancing food technology. He is Dr. Reginald Carter Sherwood, vice president and technical director of Sterwin Chemicals, Inc. The scholarship will bear Dr. Sherwood's name.

Dr. R. C. Sherwood

Establishment is through a fund contributed by Sterwin, to be administered by the American Association of Cereal Chemists. Plans are for AACC to provide an annual grant to a graduate student in agricultural biochemistry at the university. Dr. Sherwood has served AACC in numerous capacities, including a term as president.

Occasion for the scholarship is the planned retirement of Dr. Sherwood from the Sterwin firm in August. Commenting on the new award, Robert S. Whiteside, president of Sterwin, stated, "We are delighted to cooperate with AACC and the University of Minnesota to make this scholarship possible, because it is a most fitting way to recognize Dr. Sherwood's contributions over the past 40 years as an educator and scientist."

Dr. Sherwood was active in developing a new system of supplying chlorine dioxide flour maturing agent to millers and the first commercial process for fortifying wheat flour with diastatic enzymes contained in malted wheat. While associated with General Mills, Inc., from 1929 to 1943, he played a leading part in developing and launching the food enrichment program in the U.S. «

FOR WANT-AD RESULTS:
THE NORTHWESTERN MILLER

FACTS
The ABILENE
FLOUR MILLS COMPANY
ABILENE · KANSAS
Quality Bakery Flours
No-Risk
No-Risk Ex-Hi
Pla-Safe
CAPACITY-4,000 CWTS.
GRAIN STORAGE
4,700,000 BUS.

BAKING TRAINING
Bread & Rolls ● Cakes & Pastries
Experimental Baking and Decorating Included
Scholarships Available—Write
DUNWOODY INDUSTRIAL INSTITUTE
An Endowed Non-Profit Trade School
818 Wayzata Blvd. Minneapolis 3, Minn.

SPRING WHEAT FLOURS
RED WING SPECIAL
BIXOTA
CREAM *of* WEST
PRODUCE BREADS WITH TASTE APPEAL
THE RED WING MILLING CO.
RED WING, MINNESOTA
Wheat Washed with Our Own Artesian Well Water.
Flour Tested and Baked in Our Own Laboratory.

Flours to Meet Any Quality Baker's Needs
STRONG FLOURS THAT BUILD UP DOUGH FORMULAS
The MORRISON Milling Co. ★ Denton, Texas

Quality Flour for Every Need
Leo Frank Co.
• 82 Beaver Street NEW YORK •

KNAPPEN MILLING COMPANY
Producers of
BEST QUALITY MICHIGAN CAKE & BAKERY FLOURS
AUGUSTA, MICH. TEL: Redwood 1-3282

Lyon & Greenleaf Co.,
Incorporated
Millers of Quality Soft Wheat Flours
Since 1866
LIGONIER, IND.

WOLCOTT & LINCOLN, Inc.
GRAIN MERCHANTS
Operating:
Chicago Great Western Elevator
Kansas City
Wolcott & Lincoln Elevator
Wellington, Kansas
Main Office: KANSAS CITY, MO.
Board of Trade Building

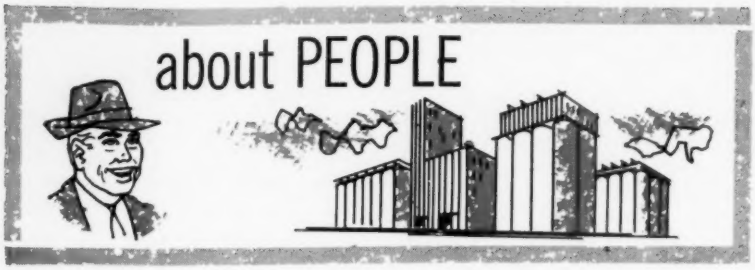
Moore-Lowry Flour Mills
INCORPORATED
Kansas City, Mo.
PRECISION-MILLED FLOURS

To bake the best . . .
buy the best!
Quality Bakery Products
NATIONAL YEAST CORPORATION
Chanin Building, New York, N.Y.

BUFFALO • PYRAMID
Quality Flours Since 1879
The
WILLIS NORTON
Company
WICHITA • KANSAS

The Williams Bros. Co.
Merchant Millers KENT, OHIO, U. S. A.
Millers of Soft Winter Wheat.
We specialize in laboratory controlled production of superior Cake, Pastry and Cracker Flours from carefully selected wheats.

Super Chief
High Protein Flour
GREEN'S MILLING CO.
Morris, Minn.



George W. Fasching, formerly district sales manager for Standard Brands, Inc., at Portland, Ore., has joined the California Raisin Advisory Board at Fresno, Cal. He's been named promotion manager of the organization. It's a new position, set up to coordinate the advisory board's promotional activities in the baking industry. According to **Donald C. White,** manager, the board is expanding its promotional work with an increased budget, recognizing the need for stronger promotional efforts at the consumer and trade levels. Mr. Fasching joined the Fleischmann Division of Standard Brands in 1944 and established a hotel and restaurant division in the Pacific Coast region.

•

K. W. Koechig has been appointed manager of the plant and sales division of Bemis Bro. Bag Co.'s plant and sales division at Indianapolis. He succeeds **Dexter A. Clarke,** who has been transferred to Minneapolis as manager of the Bemis plant and sales division there. (THE MILLER, June 26, page 35.) The new Indianapolis manager, with Bemis since 1943, has a legal background as well as experience in business. He was an independent trader of securities and manager of estates 10 years prior to joining Bemis. Originally from St. Louis, he is a graduate of Washington University there and holds a bachelor's degree in business administration and a doctor of law degree.

K. W. Koechig

•

Fuchs Baking Co., South Miami, Fla., has elected **George M. Wilson** to the position of board chairman. Currently serving as city councilman for Coral Gables, Fla., Mr. Wilson has been active in civic work and in 1960 was named Coral Gables' outstanding young man of the year. He also served at one time as district commissioner of Florida inland navigation.

•

It's a move up to the presidency of the Kansas City Chapter, Grain Elevator & Processing Superintendents, for **George Lippold,** Dannen Grain & Milling Co., St. Joseph, Mo. **John A. Dove,** Norris Grain Co., Blue Springs, has been elected vice president; **F. Neil Leishman,** the Day Sales Co., Kansas City, becomes second vice president, and **Melvin Cummins,** Salina Terminal Elevator Co., Grandview, secretary-treasurer.

•

Colonial Baking Co., Chattanooga, Tenn., has a new president, **W. L. Gerdes,** who formerly served as company vice president and assistant manager in St. Louis. He replaces **Raymond Hunt,** president of the firm for 15 years, who now becomes chairman of the board. Mr. Gerdes began his baking industry career as a salesman for Fehr Baking Co. Later, he was a traveling representative for Campbell Taggart Associated Bakeries, Inc., and held responsibilities as a sales manager in Chattanooga from 1951 through 1953.

•

General Foods has named a new sales manager for its corn milling operations at Kankakee, Ill. He is **Lyman D. Ketchum,** who succeeds **Ross Barzelay,** now appointed operations manager at Kankakee. In his new position Mr. Ketchum will be responsible for sales of all corn mill products to the industries served, including baking. Mr. Ketchum formerly was corn milling division manager for Spencer Kellogg & Sons, Kansas City.

•

Appointment of **Clarence W. Gardiner** as administrative assistant to the president of Keebler Biscuit Co., Philadelphia, brings to that position a man with more than 40 years of office management and administrative work in the baking industry. **Wendell P. Nolan** is president of Keebler. Mr. Gardiner formerly was vice president and general manager of the Omaha

division of United Biscuit Company of America, of which Keebler is a division.

•

Delbert F. Wright, vice president of administration and employee relations for General Mills, Inc., has been elected to the company's board of directors, bringing membership to 17, reports **Gerald S. Kennedy,** chairman. Mr. Wright served as comptroller and vice president for employee relations from 1959 until June 1 of this year, and is now responsible to the firm's president, **Charles H. Bell,** for purchasing, traffic, departments of the treasurer and commercial development, plus employee relations activities. He is a veteran of 38 years of service with General Mills and its predecessor, the Sperry Flour Co.

Delbert Wright

•

Several appointments have been made in the feed division of General Mills, Inc. **Paul J. Harding** moves into the position of growing and marketing manager for the eastern region headquartered at Lancaster, Pa., reports **H. R. Anderson,** regional sales manager. **Edward H. Riley** becomes merchandising manager of the eastern region. **Ira F. East, Jr.,** becomes regional sales manager of the newly created central region, according to **E. J. Slevin,** director of sales for that region, which headquarters at Indianapolis. **W. G. Stokes** and **Robert White** have been named district sales managers, working under Mr. East in Indianapolis. «

Ontario Flour Millers Attend Annual Meeting

Members of the Ontario Flour Millers Assn., meeting in annual session, have named officers to guide their organization for the coming year and have reelected three directors.

G. T. Roe, Great Star Flour Mills, Ltd., has been elected president; J. R. Morris, J. A. Morris & Son, Ltd., vice president, and J. C. Rennie, King Milling Co., reelected treasurer. As directors, the association reelected Mr. Roe, Mr. Morris and R. J. Monk, McCarthy Milling Co., Ltd.

Mr. Roe highlighted the session by reporting on conditions in the industry and reviewed activities of the association for the past year.

One feature of the annual meeting was presentation of the association's 60-year award to Frank G. Reid, Reid Milling Co., Ltd. Presentation was made by Clifford Snider, Snider Flour Milling Co., Ltd.

As speaker, the Ontario flour millers had E. J. Wolff, export manager for the Quaker Oats Co., Ltd., Canada. Mr. Wolff gave a talk, "Inside West Africa," and accompanied his presentation with slides taken during his visit to Africa last year. «

Our brands have become identified with quality the world over . . . Extensive experience with top quality wheats from Montana, Idaho, Washington and Oregon milled in the largest flour mill on the West Coast means flours of consistent uniformity and highest quality.

ORIGINATORS OF THE EFFICIENT AND ECONOMICAL BULK-PAK FLOUR BIN

FISHER FLOURING MILLS CO.

Seattle, U.S.A.

Domestic and Export Millers

CLIFF H. MORRIS
Eastern Representative
60 East 42nd St.
New York City

HARD AND SOFT WHEAT FLOURS

J. F. IMBS MILLING CO.

ST. LOUIS 10, MISSOURI

MILLING CAPACITY—4,200 CWTS. DAILY

20th Anniversary of

"The Quiet Miracle"

ENRICHMENT

Enrichment means the addition of B-vitamins—thiamine, niacin and riboflavin—and the mineral, iron—to bread, bakery products, flour, macaroni foods, corn meal, rice and other cereals.

Better Health thru Better Nutrition

MARSH & McLENNAN
INCORPORATED

MILL AND ELEVATOR INSURANCE

Transportation Insurance on Flour Against All Risks

•

Chicago • New York • Minneapolis

Correspondents in American and Foreign Ports

Strick's Shows How Modernized Doughnut Plant Fulfills Demands Of Market Area

Doughnuts that Sell

By NYDIA WALTERS

Northwestern MILLER Feature Writer

THE DOUGHNUT—that perennial favorite—is keeping a father and son team in Spokane, Wash., as well as their staff, busy meeting demands of bakeries throughout the Inland Empire.

Over a period of approximately seven years Strick's Donut Co. at Spokane has developed a business which now supplies an average of 3,000 doz. doughnuts a day to most of the city's commercial bakeries and to a major baking firm in Lewiston, Idaho.

Two years ago Strick's underwent a modernization program, and is now working harder than ever.

The father is Herbert H. Strick, a veteran with some 32 years of experience in doughnut production—he actually believes he has made millions of doughnuts—and he vividly recalls the days when the entire operation was performed by hand. Mr. Strick worked in various bakeries around Spokane and the Pacific Northwest before forming his own company with son, Howard C. Strick.

In a few short years their business has grown to a point where it requires several thousand pounds of prepared mix and doughnut flour each day, several hundred pounds of shortening, sugar, and the trimmings, such as flavorings, nuts, cocoanut, chocolate and a special blended ingredient for powdered doughnuts.

Company Slogan

The Strick team has developed a company slogan, "Make a Good Doughnut Just a Little Bit Better," and has done considerable experimenting to put action to the words. For one thing, they blend a prepared mix and a cake doughnut flour for a tastier, more tender raised doughnut.

When the company modernized two years ago, a gas-fired stainless steel doughnut machine was installed to meet expanding production at a rate of 280 to 600 doz. doughnuts an hour.

There also is a stainless steel, 760-lb.-capacity vat beneath the machine for heating shortening from 370 to 385°. The shortening is filtered and kept circulating for freshness and a sweeter tasting doughnut is the end product.

For flexibility and speed of cutting, the Strick operation has a cutter to handle any size doughnut. Frying is done in about one minute, handling eight cups a minute on small size and 12 cups a minute on large-size doughnuts.

From the frying operation, the doughnuts travel another minute on a 180° angle, crescent-shaped conveyor to a synchronized stacker. The synchronization permits each doughnut screen to drop automatically into position as an operator removes the full one putting it on a tiered rack for additional cooling.

As part of its modernization, the Strick firm now uses a 180-qt. mixer for cake doughnut production. About half of this output remains unfrosted, while the other half is either powdered or given fancy icing. Powdering is done with a tumbling action, with the doughnut dispensed to a conveyor and boxed.

Icing at Strick's is automated, with the excess caught and saved.

Production Control

Time and temperature control is used for Strick's raised doughnut production, with a separate room for dough preparation. When sufficiently raised, the dough is brought into the main part of the plant, cut by air pressure, and moved over a sheeter to conditioning screens, cloth punctured with small holes tightly fitted over square, divided wire racks. Each square handles one doughnut.

As the screens are filled, they go into one of two conditioners, each having a capacity of 230 doz. units. Both conditioners are fitted with glass fronts and have automatic heat and humidity controls. Conditioning ranges from 40-45 min., depending on weather conditions.

Removed from the conditioner, the

racks are put on a feeder table to separate the cloth from the doughnuts. The doughnuts are dropped onto a greased chute and fed to the frying machine.

Strick's makes its dough sheeter do double duty for producing maple bars, cinnamon twists and other items.

Packaging Operation

The company spends $2,500 to $3,000 a month for cartons and other containers. Its raised doughnuts are packed in one and two-dozen containers; cake doughnuts go into boxes of half-dozen each. Large cardboard boxes are used for speedier, easier distribution directly to store outlets.

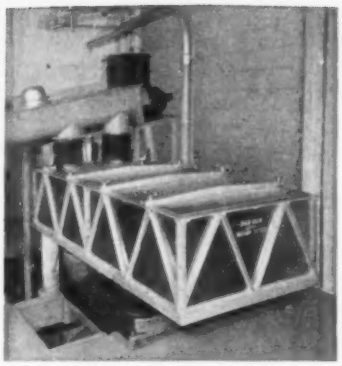
To supply other demands for its products, Strick's uses a wrapping machine to cellophane wrap some of the doughnuts.

When October approaches and the National Doughnut Month promotion moves into high gear, Strick's personnel go on a longer production schedule. For three days prior to Hallowe'en they operate around the clock.

The veteran Mr. Strick, commenting on the growth of his firm's business and the reasons for it, sums it all up with the statement, "Today, with competition so keen, as everyone knows, a business such as ours must endeavor constantly to make a good product even better." «

VENDING MACHINE BREAD TEST MARKETED

Baking industry automation has been extended to coin-operated vending machines which dispense loaves of bread. Grocerette Vending Machines, Inc., has reported successful completion of an eight-month trial run of its machines in Long Beach, Cal., and it appears they may find use in Canada, too. A typical Grocerette set-up includes 28 loaves of bread on each of three shelves, plus milk, eggs, butter, juices and meats. The next test of sales potential will be through installation of banks of vending machines outside supermarkets to provide service after closing hours. Vendomatic, Ltd., Toronto, has been named exclusive distributor of Grocerettes in Canada, and the units are now being field tested in Vancouver, where it is claimed Vendomatic is finding the same public acceptance received in Long Beach. «



Scalp flour up to 70,000 pounds per hour in only 26 square feet

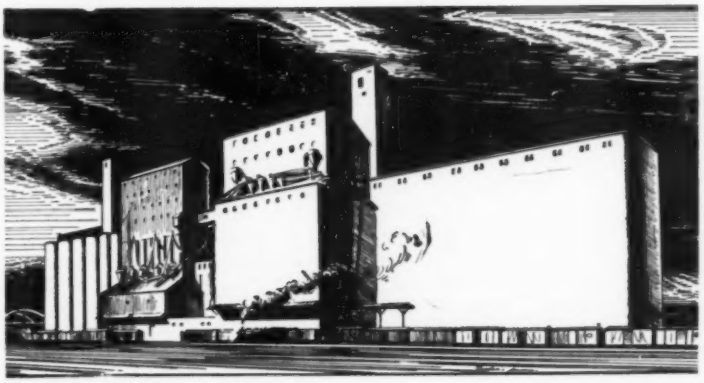
BAR-NUN
Rotary
SIFTER

This Series 480 Bar-Nun Rotary Sifter scalps up to 700 cwt. an hour, through 40 mesh, in less than 26 square feet of floor space. True rotary motion in a single plane allows 76 square feet of active, working cloth in this space. Users also say that the dust-free, rugged Bar-Nun cuts housekeeping and maintenance costs.

Bar-Nun flour scalpers are made in a combination of 21 sizes and models, with hourly capacities on 40 mesh from 30 to 700 cwt. Sanitary construction is available. Write for facts on all the profitable Bar-Nun benefits.

B. F. GUMP CO.
1308 South Cicero Avenue, Chicago 50, Illinois

SALES AND SERVICE
New York 36—JABEZ BURNS AND SONS, INC.—600 W. 43rd Street
San Francisco 5—TEMPO-VANE MFG. CO.—330 First Street
Dallas 2—J. B. WILLIAMS—1026 Young Street



ROCK ISLAND ELEVATOR—7,500,000 BUS.

SIMONDS • SHIELDS • THEIS
Grain Company
BOARD OF TRADE BLDG. • KANSAS CITY, MISSOURI
Serving the Milling Industry for 76 Years
F. A. Theis • F. J. FitzPatrick • W. C. Theis • H. W. Johnston
J. F. Baumgartner, Manager Country Elevators

NEW •IDEAS •PRODUCTS •SERVICES

This reader service department announces the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Use the accompanying coupon to obtain the desired information.

Conveyor Belting

Union Steel Products Co. has introduced a conveyor belting which incorporates a scientifically formed connecting link or eyelet with a relieved and coined surface to afford a frictionless bearing surface. The company states that the belting eliminates practically all slack due to eyelet wear as well as wear upon the plastic sprocket assemblies over which the belting travels. Previously manufactured and supplied in a No. 9 steel wire, the improved belting is supplied in a No. 7 spring hardened steel wire with increased diameter, greater strength, resilience and hardness, plus a durable surface finish. The belting is said to be suitable for use in the food field.

Circle No. 4885
on Reply Form for Details

Lightweight Shelving

Metropolitan Wire Goods Corp. has developed a lightweight shelving which it claims is designed to save steps and improve efficiency for bakers. The product is "Erecta-Shelf." It comprises steel rod shelving mounted

on large rubber casters. Though light in weight, the shelves support up to 1,000 lb. each if required, states the manufacturer. They adjust every five inches to accommodate most sizes or shapes of products. Another feature claimed is the fact that "Erecta-Shelf's" steel rod construction does not collect crumbs or flour. The rods wipe clean easily and are said to present a neat, new appearance at all times. A free illustrated folder and price schedule are available.

Circle No. 4886
on Reply Form for Details

Muffin Container

Kaiser Aluminum & Chemical Sales, Inc., now has in use a six-muffin aluminum container in the New York, Philadelphia and New England areas. Made to the baker's specification, it is said the container solves the problem of drawing and forming multiple cavity containers from a single sheet of .003-inch gauge aluminum foil. The six-muffin cavities are each 1¼ in. deep, 1¾ in. wide at the bottom and 2½ in. wide at the top. Outside dimensions of the container are 9 in. by 6 in. In spite of the forming required, the aluminum container is said to be sturdy and durable. The disposable pan can be either discarded after use or re-used by the customer for other baking.

Circle No. 4887
on Reply Form for Details

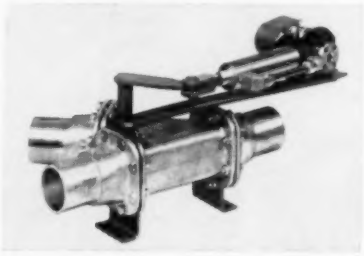
Round Processors

Cherry-Burrell Corp. has released a bulletin on its line of heavy duty, multi-purpose round processors. It contains complete information on the company's spray-type processors; the enclosed waterway processor; direct expansion cold wall processor; the vacuum-pressure processor and cone bottom processor. The processors are built to provide top quality control for products where body and viscosity depend on proper agitation and accurately controlled temperatures of both product and heating medium. Complete specifications are contained in bulletin G-566.

Circle No. 4888
on Reply Form for Details

Diverter Valve

The Fluidizer Division of Daffin Corp. has designed and engineered a "flipper" type diverter valve to eliminate the hidden pockets and close sliding tolerances in which such products as flour and sugar pile up and "freeze" to cause malfunction. The company states that the new Fluidizer valve has been in operational usage for a number of months in approximately 15 installations. It states that it has been fully checked out for performance before distribution on a national scale. The primary function of the valve is to control the flow of material to storage bins, scale hop-



pers, use hoppers or any other position where automatic, remotely controlled diversion of pneumatic conveying lines is necessary. The diverter valve is available in a variety of sizes, has air-operated solenoid controls, is claimed to be fast, and the sealing member or "flipper" is made of highly wear-resistant rubber. It is said to be lightweight for easy installation, and has a cast aluminum body section.

Circle No. 4889
on Reply Form for Details

Display Case

The C. Schmidt Co. is offering a combination service and self-service refrigerated display case for bakery departments, said to be excellent for use in stores with long hours. During the busy part of the day when sales personnel are on duty, the case is used as a service case with employees working from doors in the rear. Dur-

ing slack hours, when it is uneconomical to have personnel on duty, customers serve themselves through sliding doors in the front of the case. The case has glass ends, top and glass sliding doors on the front, with solid sliding doors at the back. The length is 6 ft. 3 in. and the refrigeration system is engineered for bakery foods and installed at the factory. The combination case is C. Schmidt's Model BC6-RT.

Circle No. 4890
on Reply Form for Details

Checkweigher Literature

The complete line of automatic in-line checkweighers made by Toledo Scale, division of Toledo Scale Corp., is fully illustrated in a colorful eight-page booklet now available, Form 2968a. The literature contains informative material on the accuracy, checkweighing speed, and weight ranges of each Toledo Checkweigher model. It also contains pertinent construction data. Various industrial applications of the checkweighers are illustrated with installation photographs. The booklet explains Toledo checkweigher accuracy in terms of "zone edge tolerance," which is a positive means of expressing checkweighing accuracy. Zone edge tolerance is described as the consistency with which a machine chooses between adjacent weight zones when the package weight falls in the break-even area between weight zones. The narrower this area is, expressed in fractional ounces, the greater the checkweigher accuracy and reliability throughout a given machine's weight range.

Circle No. 4891
on Reply Form for Details

Stocking Cart

Technibilt Corp. is offering a stocking cart to handle a wide variety of loads. The cart handles heights up to 42-in. It has two decks. The upper deck can be folded up and locked to

make room for large upright loads. The cart is made of heavy steel wire and tubing, and has a capacity of 300 lb. To save storage space, the stocking cart PLC-400 is designed to nest like a supermarket shopping cart.

Circle No. 4892
on Reply Form for Details

Testing Meter

Kel Instruments Co., Inc., has introduced a pH Meter to test acidity of semi-solid matter or liquid and for field checking the pH at any stage of a manufacturing process, such as in a bakery. The pH Meter is recommended for production and quality control in bakeries, food processing plants, laboratories and other areas of industry. The meter is in a portable size, 2½ in. by 5½ in. x 6 in., and weighs only two lb. It comes in a leather case with carrying handle. To test for pH, metal rods are inserted in liquid or semi-solid matter and an answer will be obtained in 2 to 3 min. No electric current or battery is required or chemicals for re-filling. The company states that the meter is complete and ready to use all by itself.

Circle No. 4893
on Reply Form for Details

Feeder Bulletin

Sterwin Chemicals Inc. has prepared a technical brochure on its Model 50-A3 Feeder for precision feeding of such dry materials as vitamin enrichment concentrates, micronutrients, leavening agents, powder bleach, bromate mixtures and mineral mixes. The brochure contains complete specifications of the feeder. Sterwin states that the unit is especially intended to handle powders having variable densities and flow characteristics. The brochure also describes the accuracy, ease of operation and economy of the unit and gives close-up photographs of the operation.

Circle No. 4894
on Reply Form for Details

Research Separator

High tension separation, applicable to testing all variations of electrodynamic and electrostatic conditions, is now being used in food cleaning and processing. Carpco Research & Engineering, Inc., has available for this work its CARPCO Model HP16-114 research separator. Claimed to be the first machine designed specifically for research in the field of high tension separation, it is now available for research and engineering institutions, firms and schools interested in studying the process.

Circle No. 4895
on Reply Form for Details

Cellophane Bags

American Viscose Corp. reports the successful use of a four-color cellophane cookie bag using its 600-RS

Use This Reader Service Card

•

For Information

•

Keep Posted on New Ideas

•

Print or Type Clearly

•

Requires Postage Outside the U.S.

FIRST CLASS
PERMIT No. 2
Minneapolis, Minn.

BUSINESS REPLY CARD
NO POSTAGE NECESSARY IN THE UNITED STATES

Postage Will Be Paid by

THE Northwestern MILLER

P.O. Box 67

Reader Service Dept. Minneapolis 40, Minn.

NEW Ideas, Products, Services

premium priced film. According to American Viscose, the extra cost of the cellophane has been offset by

elimination of bag failures on the production line and in distribution. The company further states that the bag has been instrumental in better merchandising and increased sales. The cookie firm selected the heavy gauge polymer coated clear film, No. 600-RS cellophane also to enhance bag appearance, to seal in flavors, and to better protect the contents.

Circle No. 4896
on Reply Form for Details

Heavy Gauge Film

A higher yield variety of heavy gauge "K" cellophane, with strength enough to meet most packaging requirements for crackers and biscuits, is available from the du Pont film department of E. I. du Pont de Nemours & Co. The new film yields 11,600 sq. in. per pound. It has been introduced to expand Du Pont's line of heavy gauge, polymer coated cellophanes. It is said to retain most advantages of the firm's lower yield "K" cellophane 103-203 (formerly designated "K" 600) which is still available. In addition, "K" 116-202 is supposed to seal at a lower temperature than other heavy gauge, polymer coated films, for higher efficiency on both bag making and make-and-fill packaging equipment.

Circle No. 4897
on Reply Form for Details

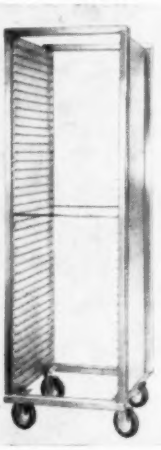
Airslide Pump

A self-discharging carrier for dry bulk materials, the Airslide Pump, is described in a two-page, two-color bulletin available from the Fuller Co. Included in the bulletin is a description of flow of the material through the combination tank-pump by means of the fluidizing action of Airslide conveyors. Discharge control, equalization of air pressure and minimization of abrasive action are also discussed in the bulletin. Illustrations include two dimensional drawings, a cutaway drawing and an installation photograph of the pump. Key dimensions for four different size units are listed in a separate table. The bulletin is No. FHP-1.

Circle No. 4898
on Reply Form for Details

Bakery Rack

Stoddard-Quirk Manufacturing Co. has introduced its Model 950 bakery rack which holds 41 standard 17 in. by 20 in. bun pans. The rack is designed to meet the demand for more efficient and sanitary methods of hand-



ling baked foods, say the manufacturers. It incorporates a unique side panel channel construction which allows warped pans to be used without the problem of jamming. It is of all-welded construction for rigidity, sturdiness, longer life and efficiency. The Model 950 is one of Stoddard-Quirk's line of transport cabinets, racks and insulated food handling cabinets in popular sizes for the baking industry «

Circle No. 4899
on Reply Form for Details

Please send me more information. I have circled code numbers of items in which I am interested.

4885	4886	4887	4888	4889
4890	4891	4892	4893	4894
4895	4896	4897	4898	4899

YOUR NAME .....

FIRM NAME .....

ADDRESS .....

CITY OR TOWN .....ZONE....STATE..... OR PROVINCE

Use This Reader Service Card

•

For Information

•

Keep Posted on New Ideas

•

Print or Type Clearly

•

Requires Postage Outside the U.S.

Recommendations Drawn to Combat Drouth in Canada

The most extensive drouth in Western Canada in history has given cause for top agricultural officials to draw up a six-point program to combat its effects and shortages.

Alvin Hamilton, minister of agriculture, met in Winnipeg with ministers from the three prairie provinces, representatives of the Canadian Wheat Board and chief aides from Ottawa and the provinces of Manitoba, Saskatchewan and Alberta.

Their six-point program is an effort to hold cattle from the market and to prevent a break in prices. Recommendations include: (1) Movement of grain and feed into community pastures and increase in numbers of cattle in these areas to prevent any sharp price break; (2) provision of incentives, still to be worked out, for dairy farmers to grow their own green feed for winter needs; (3) an immediate education program showing farmers how grain can serve as a good alternative to inadequate fodder; (4) holdback of country elevator grain by the Canadian Wheat Board to insure available supplies of feedstuffs; (5) use of the mandatory floor price contained in the Agricultural Prices Stabilization Act, and (6) provision of grain supplies for emergencies in local areas, with the municipalities paying the elevator carrying charge.

Many districts were more severely hit in the 1930's, but the area under punishment was much less than now.

Grain crops have been as hard hit as grazing lands, but summerfallow crops are standing up well. However, a longtime average yield now seems remote. In more favorable areas of Alberta and Saskatchewan the picture is different, and available surplus feed may be able to meet requirements of the drouth area. «

Uniformity

the priceless quality in flour

yours always with . . .

Acme-Evans Flours

ANGELITE—cake flour
COOKIE KING—cookie and dough-up flour
CRACKER KING—cracker sponge flour
GRAHAM KING—100% soft wheat graham
PASTRY KING—low viscosity flour

Progressive Milling Since 1821

ACME-EVANS COMPANY, INC., INDIANAPOLIS 9, IND.

NOW—The Latest in Milling . . .

Our ALL-PNEUMATIC MILL

"Golden Loaf"—HOYT'S BEST FLOURS

. . . are milled in our completely modernized Pneumatic Mill on the tested and tried flow that has made these flours front-ranking since 1901.

BULK OR SACK LOADING Daily Capacity—5,500 Cwts.

TENNANT & HOYT COMPANY

LAKE CITY, MINNESOTA

Independently Owned and Operated for Four Generations

BE AS PROUD OF YOUR JOB AS WE ARE OF OURS, *for*

BREAD IS THE STAFF OF LIFE

The

CONSOLIDATED FLOUR MILLS CO.

OFFICE: KANSAS CITY, MISSOURI

1590 W. 29 ST. • TELEPHONE LOGAN 1-2400

MILLS AT KINGMAN & WINFIELD, KANSAS

CAPACITY • 7,850 CWTS. —— STORAGE • 3,000,000 BU.

Centennial MILLS, INC.

1464 N.W. Front Avenue Portland 8, Oregon

Cable address: Centennial Mills, Inc., Portland, Oregon

Domestic and Export Millers.

Experienced in all types of bulk delivery.

New . . . complete quality control and baked products laboratory.

Complete line of fine quality Bakers' Flours.

Fancy Durum and Winter Wheat. Circulars for macaroni industry.

MILLS AT: PORTLAND, SPOKANE, WENATCHEE

MAKE THE JEFFERSON HEADQUARTERS

During Bakers Convention
Oct. 7th to 12th

The JEFFERSON, one of Atlantic City's finest modern hotels, is splendidly equipped to be a gracious and efficient host to the requirements of your convention group. Auditorium with stage, ample meeting halls, display rooms, private dining rooms all combined and with complete hotel service and a selected personnel to cater to your wants.

Our Specialty Cocktail Parties
Private Meeting Rooms

HOTEL JEFFERSON
Atlantic City New Jersey

Kansas City Board of Trade Members Approve Changes In Futures Trading Rules

Changes in exchange rules for the Kansas City Board of Trade, to make Kansas City futures more attractive to trading interests, have been given membership approval.

The new rules, however, do not apply to July contracts. On later deliveries currently quoted new and old contracts will be specified and carried out until consolidation under the new rules is worked out. The rules are now effective.

Changes are: (1) The deliverer on a futures contract will protect the Chicago domestic proportional rate, preventing use of short rate tonnage without allowing the difference; (2) give assurance to the buyer that any tonnage applied on a movement of delivery grain shall entitle him to one additional transit stop without penalty; (3) establish as a rule the recognized practice in the market of charging buyer with inbound switching charges on cross-town movements, which he later recovers by claim; (4) provide that an expense bill furnished in connection with a cross-town movement may not be used on a subsequent cross-town movement, and (5) change the track delivery rule by providing that deliverer shall protect the Chicago domestic proportional rate and one additional transit stop or make suitable allowance therefor. «

To prevent grain spoilage, two safeguards are needed for the elevator: (1) Moisture must be prevented from entering, and (2) water vapor within the walls must be allowed to escape, so that interior condensation cannot occur. Western applies the modern scientific principle of "wall breathing" to this problem, providing effective, long-lasting protection for the elevator and its contents. The Western representative in your area will be happy to inspect your mill or elevator, and suggest the proper treatment, if needed.

6125

WESTERN WATERPROOFING CO., Inc.
A Missouri Corporation and its Affiliate
RESTORATION COMPANY, INC.
1223 Syndicate Trust Bldg. • St. Louis 1, Missouri

Gladiola
Red Elefant
FLOURS OF EXCELLENT QUALITY
FANT MILLING CO.
SHERMAN, TEXAS
Mills at
SHERMAN and GAINESVILLE, TEXAS
CAPACITY 4,400 Cwts.

LEADING FLOUR IMPORTERS ABROAD

Many of the firms appearing in this list are available to handle the importation of other products besides flour. Some specialize additionally in cereals, some in bakers' sundries and others in feed grains and ingredients. Most of them have connections in adjacent countries and are equipped to handle both import and export business on an extensive basis. For a list of recommended firms dealing in specific commodities or in specific countries write to THE Northwestern MILLER, P.O. Box No. 67, Minneapolis 40, Minn., U.S.A.

ENGLAND

H. Cohen & Co., Ltd.
Hambro House, Vintners' Place
LONDON, E.C. 4
Cable Address: Bortrite, London

Mardorf, Peach & Co., Ltd.
52, Mark Lane LONDON, E.C. 3
Cable Address: "Dorfeach," London

Pillman & Phillips, Ltd.
26, Corn Exchange Chambers
Seething Lane LONDON, E.C. 3
And at Bristol and Liverpool

Sidney Smith
(Flour, Feed & Grain), Ltd.
52 Mark Lane LONDON, E.C. 3
Cable Address: "Topri," London

Vaughan Thomas & Co., Ltd.
The Corn Exchange Building
52/57 Mark Lane LONDON, E.C. 3
Cable Address: "Avaumas," London

SCOTLAND

Farquhar Brothers
50 Wellington Street GLASGOW,C.2
Cable Address: "Glencairn," Glasgow

McConnell & Reid, Ltd.
19 Waterloo St. GLASGOW
Cable Address: "Marvel," Glasgow

D. T. Russell & Baird, Ltd.
Liverpool - Leith - Belfast
106 Hope Street GLASGOW,C.2
Cable Address: "Delight"

NORWAY

Norenberg & Belsheim
OSLO
Cable Address: "Cosmo" and "Mobil"

GERMANY

Einfuhrhandel Mannheim
Hans Werle
MANNHEIM/GERMANY, E2., 1-3
Cable Address: "Einfuhr" Telex 0463270

DENMARK

Brodr. Justesen
COPENHAGEN
Cable Address: "Justesens," Copenhagen

HOLLAND

Bulsing & Heslenfeld N. V.
Established 1885
Damrak 20-22
AMSTERDAM (C)
Cable Address: "Heslenfeld," Amsterdam

Luchsinger, Meurs & Co.'s
Handelsmaatschappij, N.V.
AMSTERDAM—C.
Cable Address: "Matluch"

Comm. Venn. Handelmij v/h
Osieck & Co.
AMSTERDAM
Cable Address: Osieck

M. WITSENBURG JR. N. V.
Postbox 945 AMSTERDAM C.
Cable Address: "Witburg"

Van Walbeek's Handelmaatschappij N. V.
Ungerplein 2 ROTTERDAM
Cable Address: "Interest-Rotterdam"

Gebrs. Van Den Bergh's N. V.
ROTTERDAM
Cables: Locomotion Rotterdam

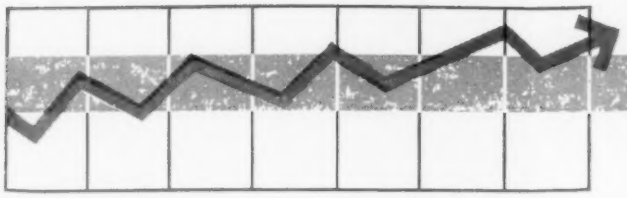
STOLP & CO., LTD.
47-48 Damrak AMSTERDAM
Cable Address: "Cleo"

N. V.
Algemeene Handel-en Industrie Maatschappy
"MEELUNIE"
Heerengracht 209 AMSTERDAM

N. V. Agentuur & Commissiehandel
v/h P. C. Vis & Co.
AMSTERDAM
Cable Address: "Visco"

Felix Cohen, N. V.
36, Mauritsweg (Postbox 196)
ROTTERDAM
Telex: 21290 Cable Address: Felixhen

GRIPPELING & VERKLEY N. V.
Flour Specialists Since 1889
AMSTERDAM
Cable Address: Bygrip, Amsterdam



FLOUR PRODUCTION

A Statistical Service Provided Continuously for Readers of The Northwestern Miller for More than Half a Century.

WEEKLY FLOUR PRODUCTION, IN SACKS (CWT.)

Flour production in principal manufacturing areas by mills reporting currently to THE Northwestern MILLER with relationship of production to capacity and to the total estimated output of all mills in the U.S. expressed in percentages:

	June 18-25, 1961	*Previous week	June 19-26, 1960	June 20-27, 1959	June 21-28, 1958
Northwest	723,850	757,337	697,355	685,828	703,485
Southwest	1,518,651	1,342,397	1,255,549	1,315,345	1,426,783
Buffalo	522,771	550,156	511,833	516,188	525,368
Central and Southeast	513,636	619,848	477,011	586,669	562,628
Pacific Coast	406,085	379,555	461,708	443,623	425,845
Totals	3,684,993	3,649,293	3,403,456	3,547,653	3,644,127
Percentage of total U.S. output	83.5	83.5	75	75	75
Estimated total U.S. production	4,413,165	4,370,411			
Accumulated total this month	15,206,154	10,792,989			

*Revised.

	—Percentage of capacity operated in 5-day week—					Crop year flour production ——July 1 to——	
	June 18-25, 1961	Prev. week	June 19-26, 1960	June 20-27, 1959	June 21-28, 1958	June 25, 1961	June 26, 1960
Northwest	97	102	96	105	89	38,058,182	36,711,860
Southwest	110	97	95	108	89	75,479,142	74,219,144
Buffalo	103	109	98	111	91	26,363,435	26,397,693
Central and S. E.	80	96	73	99	82	31,339,886	31,334,729
Pacific Coast	86	81	99	95	95	22,080,884	23,264,557
Totals	98	97	92	109	100	193,321,529	191,927,983

NORTHWEST

Minneapolis

	5-day week capacity	Flour output	% capacity
June 18-25	185,100	185,440	100
Previous week	185,100	*210,708	114
Year ago	194,500	182,713	94
Two years ago	231,000	215,440	93
Five-year average			95
Ten-year average			95

*Revised.

Principal interior mills in Minnesota, including Duluth, St. Paul, North Dakota, Montana and Iowa:

	5-day week capacity	Flour output	% capacity
June 18-25	558,870	538,410	96
Previous week	558,870	*546,629	98
Year ago	534,250	514,642	96
Two years ago	494,500	488,045	99
Five-year average			104
Ten-year average			95

*Revised.

CENTRAL AND SOUTHEASTERN

Mills in Illinois, Ohio, Michigan, Wisconsin, Indiana, Kentucky, North Carolina, Tennessee, Virginia, Georgia and eastern Missouri:

	5-day week capacity	Flour output	% capacity
June 18-25	612,700	513,636	80
Previous week	612,700	*619,848	101
Year ago	651,450	477,011	73
Two years ago	643,750	562,628	86
Five-year average			94
Ten-year average			87

*Revised.

SOUTHWEST

Kansas City

	5-day week capacity	Flour output	% capacity
June 18-25	297,750	307,994	103
Previous week	297,750	261,078	88
Year ago	254,250	206,684	81
Two years ago	221,750	273,790	123
Five-year average			106
Ten-year average			99

Representative Mills, Outside of Kansas City (Including Wichita and Salina)

	5-day week capacity	Flour output	% capacity
June 18-25	1,084,397	1,210,657	112
Previous week	1,084,395	*1,081,319	100
Year ago	1,067,250	1,048,865	98
Two years ago	1,068,800	1,152,993	108
Five-year average			108
Ten-year average			99

*Revised.

BUFFALO

	5-day week capacity	Flour output	% capacity
June 18-25	505,500	522,771	103
Previous week	505,500	550,156	109
Year ago	522,000	511,833	98
Two years ago	494,500	525,386	106
Five-year average			108
Ten-year average			104

PACIFIC COAST

Principal Mills on the Pacific Coast

California, Oregon and Washington Mills

	5-day week capacity	Flour output	% capacity
June 18-25	471,200	406,085	86
Previous week	471,200	*379,555	81
Year ago	466,500	461,708	99
Two years ago	466,500	425,845	91
Five-year average			96
Ten-year average			89

*Revised.

DURUM PRODUCTS OUTPUT

Durum products output of mills reporting to THE Northwestern MILLER, in sacks, based on five-day week:

	5-day week capacity	Wkly. production	% of capacity
June 18-25	167,250	164,808	99
Previous week	167,250	*191,277	114
Year ago	156,500	137,809	88

	Crop year production
July 1, 1960-June 25, 1961	9,542,545
July 1, 1959-June 26, 1960	9,234,307

*Revised.

Canadian Price Adjustments

Price adjustment figures announced by the Canadian Wheat Board and in effect July 5 were as follows: To U.K. and other European destinations via Canadian and U.S. Atlantic ports, also via St. Lawrence, Churchill, Canadian and U.S. Pacific ports, 4⅝¢ bu.; to other countries, excluding U.S. and territories, from Canadian and U.S. Atlantic ports, 15⅛¢ bu.; from St. Lawrence, Churchill, Canadian and U.S. Pacific ports, 14⅝¢ bu. The above adjustment prices apply to wheat milled in Western Canada. For wheat milled in the Bayport area the rate is ½¢ bu. less, while for wheat milled in the Humberstone area and in the Toronto area the rate is 1¢ bu. less. Wheat milled in the Montreal area is 2¢ bu. less. «

Production for June 18-25 is at the left; for June 25-July 2 appears here

WEEKLY FLOUR PRODUCTION, IN SACKS (CWT.)

Flour production in principal manufacturing areas by mills reporting currently to THE Northwestern MILLER with relationship of production to capacity and to the total estimated output of all mills in the U.S. expressed in percentages:

	June 25-July 2, 1961	*Previous week	June 26-July 3, 1960	June 27-July 4, 1959	June 28-July 5, 1958
Northwest	711,803	723,850	641,008	586,847	663,938
Southwest	1,512,980	1,518,651	1,329,660	1,430,783	1,228,420
Buffalo	524,039	522,771	447,244	496,189	469,578
Central and Southeast	493,590	513,636	462,703	589,580	506,654
Pacific Coast	405,674	406,085	394,010	405,817	308,953
Totals	3,648,086	3,684,993	3,274,625	3,509,216	3,256,019
Percentage of total U.S. output	83.5	83.5	75	75	75
Estimated total U.S. production	4,368,965	4,413,165			
Accumulated total this month	.....	.....			

*Revised.

	—Percentage of capacity operated in 5-day week—					Crop year flour production ——July 1 to——	
	June 25-July 2, 1961	Previous week	June 26-July 3, 1960	June 27-July 4, 1959	June 28-July 5, 1958	June 30, 1961	June 30, 1960
Northwest	96	97	88	81	99	38,769,985	37,224,666
Southwest	109	110	101	111	93	76,992,122	72,282,872
Buffalo	104	103	86	101	115	26,887,474	26,755,488
Central and S. E.	77	80	71	92	89	31,833,476	31,704,892
Pacific Coast	86	86	84	87	98	22,486,558	23,579,765
Totals	97	98	89	97	97	196,969,615	194,547,683

NORTHWEST

Minneapolis

	5-day week capacity	Flour output	% capacity
June 25-July 2	185,100	178,777	96
Previous week	185,100	184,440	100
Year ago	194,500	157,899	81
Two years ago	231,000	163,316	71
Five-year average			95
Ten-year average			96

Principal interior mills in Minnesota, including Duluth, St. Paul, North Dakota, Montana and Iowa:

	5-day week capacity	Flour output	% capacity
June 25-July 2	558,870	533,026	95
Previous week	558,870	538,410	96
Year ago	534,250	483,109	90
Two years ago	494,500	423,531	86
Five-year average			104
Ten-year average			95

CENTRAL AND SOUTHEASTERN

Mills in Illinois, Ohio, Michigan, Wisconsin, Indiana, Kentucky, North Carolina, Tennessee, Virginia, Georgia and eastern Missouri:

	5-day week capacity	Flour output	% capacity
June 25-July 2	612,700	493,590	77
Previous week	612,700	513,636	80
Year ago	651,450	462,703	71
Two years ago	643,750	589,580	92
Five-year average			94
Ten-year average			87

SOUTHWEST

Kansas City

	5-day week capacity	Flour output	% capacity
June 25-July 2	297,750	339,706	114
Previous week	297,750	307,994	103
Year ago	254,250	248,981	98
Two years ago	221,750	285,411	129
Five-year average			106
Ten-year average			99

Representative Mills, Outside of Kansas City (Including Wichita and Salina)

	5-day week capacity	Flour output	% capacity
June 25-July 2	1,084,395	1,173,274	108
Previous week	1,084,395	1,210,657	112
Year ago	1,067,250	1,080,679	101
Two years ago	1,068,800	1,145,372	107
Five-year average			108
Ten-year average			99

BUFFALO

	5-day week capacity	Flour output	% capacity
June 25-July 2	505,500	524,039	104
Previous week	505,500	522,771	103
Year ago	522,000	447,244	86
Two years ago	494,500	496,189	101
Five-year average			108
Ten-year average			104

Millfeed Production

Mills in the Northwest, Southwest and at Buffalo, representing 75% of the combined flour milling capacities of those areas, reported production of 51,760 tons of millfeed for June 25- July 2, compared with an output of 45,529 in the corresponding week a year ago. Production for the previous week of June 18-25 was 52,070, compared to 46,411 in the corresponding week of 1960.

PACIFIC COAST

Principal Mills on the Pacific Coast
California, Oregon and Washington Mills

	5-day week capacity	Flour output	% capacity
June 25-July 2	471,200	405,674	86
Previous week	471,200	406,085	86
Year ago	466,500	394,010	84
Two years ago	466,500	405,817	87
Five-year average			96
Ten-year average			89

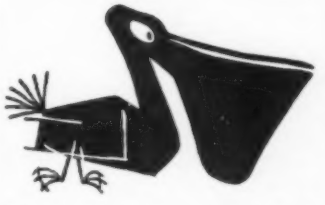
DURUM PRODUCTS OUTPUT

Durum products output of mills reporting to THE Northwestern MILLER, in sacks, based on five-day week:

	5-day week capacity	Wkly. production	% of capacity
June 25-July 2	167,250	144,226	86
Previous week	167,250	164,808	99
Year ago	156,500	124,179	79

	Crop year production
July 1-2, 1961	.....
July 1-3, 1960	24,836

FILLS THE BILL



For Timely, Useful Industry Information

The MILLER

TICKER REPORT...

THE NEW YORK STOCK EXCHANGE

Quotations on baking, milling and allied stocks listed on the New York Stock Exchange:

	1961 High	1961 Low	June 23, 1961 Close	June 30, 1961 Close
Allied Mills, Inc.	52¾	36½	44	45
Allis-Chalmers	29½	23⅜	25⅝	25⅞
American Bakeries Co.	43½	36	40⅝	40⅛
American Cyanamid	50	42⅝	44⅞	43⅝
Archer-Daniels-Midland Co.	43⅜	33½	39¼	39¼
Borden	68¾	55⅜	60½	60½
Continental Baking Co.	58	44⅝	52¼	51¼
Pfd. $5.50	111	103	103¼	103
Corn Products Refining Co.	59⅞	45⅝	51½	55
Cream of Wheat	48⅜	35¼	43¼	42⅞
Crown Zellerbach Corp.	60¼	51¾	55¾	53
Dow Chemical	83⅜	70	79¼	77⅞
General Baking Co.	10¼	7¼	7½	7¼
Pfd. $8	140	93	93¼	93⅛
General Foods Corp.	84½	68⅝	83½	82
General Mills, Inc.	37	31	34½	32¾
Pfd. 5%	113	106½	107¾	107
Merck & Co.	90⅜	77⅜	84½	84⅞
Monsanto Chemical Co.	53⅞	44⅛	53⅜	53½
National Biscuit Co.	85¾	70½	74½	74
Pfizer, Chas.	42⅞	30⅝	40⅜	41¼
Pillsbury Co.	58	44⅛	52¾	58
Procter & Gamble	93	73	85½	85½
Quaker Oats Co.	74¾	57½	70	69¼
Pfd. $6	142½	131	....	139
St. Regis Paper Co.	40½	33	35½	35
Pfd. $4.40	100	92	97	97
Standard Brands, Inc.	65½	52¼	63¼	62¾
Pfd. $3.50	78¾	72¼	....	75¼
Sterling Drug	96	67	84	82¼
Sunshine Biscuits, Inc.	116¾	101½	105	105½
United Biscuit of America	45½	35½	37½	36
Ward Baking Co.	13⅞	10⅜	13½	12⅛
Pfd. $5.50	86¾	82	....	83
West Virginia Pulp & Paper Co.	42¾	33½	34¼	34
Pfd.	98½	93	98	97

Stocks not traded:

	Bid	Asked
Allis-Chalmers, $3.25 Pfd.	104	108
Corn Products Refining Co., $7 Pfd.	89	91
Merck & Co., $3.50 Pfd.	79½	80½
National Biscuit Co., $7 Pfd.	154	155
Pillsbury Co., $4 Pfd.	95	96

THE AMERICAN STOCK EXCHANGE

Quotations on baking, milling and allied stocks listed on the American Stock Exchange:

	1961 High	1961 Low	June 23, 1961 Close	June 30, 1961 Close
Burry Biscuit Corp.	35½	19¼	26¼	25½
Horn & Hardart Corp. of N.Y.	53	36¼	39½	39¼
Pfd. $7	189¾	145	159	160
Seaboard Allied Mills	9⅞	5	....	7⅞
Wagner Baking Co.	10¾	4	6	5⅞

Stocks not traded:

	Bid	Asked
Horn & Hardart Corp. of N.Y., $5 Pfd.	100	101¾
Wagner Baking Co., Pfd.	73½	77

CANADIAN STOCKS

	1961 High	1961 Low	June 23, 1961 Close	June 30, 1961 Close
Canada Bread	6.00	3.75	6.00	5.75
Pfd. B	52½	49⅛	55½	52
Can. Bakeries	8⅛	5	5½	5½
Can. Food Prod.	9	4½	8¾	8½
1st Pfd.	56	44⅛	54½	54
2nd Pfd.	55	37½	53	54½
Catelli Food	39⅛	38	38	38
Cons. Bakeries	11⅜	7⅛	9¾	9⅜
Dover Ind.	12¼	9¾	10¾	10¾
Pfd.	10	9½	10	9¾
Federal Grain	69½	47	40	55
Pfd.	29⅛	27⅜	28¾	29
Gen. Bakeries	10¾	7¼	10½	10¼
Maple Leaf Mills	16⅝	12¼	16½	15⅜
Pfd.	101½	100	*102⅝	*102⅝
McCabe Grain	34	32¼	33½	32½
Ogilvie Flour	55	47	55	54
Pfd.	140	137	137	140
United Grain, A	16⅛	15½	16⅛	16
Weston, G., A (new)	20½	18	18⅛	18
B (new)	22¾	20	20¾	20¼
Pfd. 4½%	97	90	97	*97¼

*Less than board lot.

Milled with Scientific Craftsmanship

HIGHEST UTILITY QUALITY

Special Bakers Patent

Produced from Country-Run Wheat Carefully Selected for Superior Bread Baking Characteristics

The
WALL-ROGALSKY MILLING COMPANY
McPHERSON · KANSAS

Pacific Millers Hear Speakers Cover Area's Problems, Possible Solutions

The Pacific Coast has some flour milling problems—such as declining export and relief business—but all is not dark, and the area is showing increasing importance as a milling center, particularly California. In substance, these were the main observations made by industry leaders at the annual meeting of the Pacific Millers Assn. in Palo Alto, Cal.

Of the several speakers, Howard W. Taylor, executive secretary of the association, and Burton W. Roberts, vice president of General Mills, Inc., and manager of its Sperry Operations at San Francisco, gave the most concise summations of the Pacific Coast's milling position, both good and bad. Mr. Roberts is president of the association, now reelected for his second term. E. M. Murphy, vice president of Montana Flour Mills Co., Great Falls, was reelected vice president.

Looking at the serious problems faced by Pacific Coast millers, Mr. Taylor laid the blame on a sales decline in the Pacific Coast millers' own domestic area: A dip of some 1.5 million hundredweights in commercial export workings, and a drop of over 500,000 hundredweights of flour sales to the U.S. Department of Agriculture for overseas distribution by voluntary relief agencies.

Meeting the Challenge

Taking up the challenge to meet the area's milling problems head on, Mr. Roberts, in his address, observed that such disadvantages as "vacillating rail and water rates" must be met. To do so, he reminded millers, they have a high caliber of management personnel. These men must accept the many challenges facing the industry, and the things they do will decide whether the industry is in the "roaring" or "snoring" '60's.

John C. Koetting, Rainbo Baking Co., Houston, Texas, board chairman of the American Bakers Assn., spoke on: "Wanted: More Selling." He urged formation of a regional council of Pacific Coast millers and bakers of the area to assist with distribution of nutrition education material originated by ABA's Bakers of America Program and the Wheat Flour Institute. Closer cooperation of bakers, millers and wheat growers, such as suggested by Mr. Koetting, also was urged by other speakers on the program, Dudley E. McFadden, ABA's public relations director, and C. L. Mast, Jr., executive vice president of the Millers National Federation.

Another speaker was Clifford G. Pulvermacher, assistant to the deputy administrator of price and production, Agricultural Stabilization and Conservation Service of USDA. According to Mr. Pulvermacher, USDA is fully aware of the problems of Pacific Coast millers, including the acute domestic supply situation in the Pacific Northwest.

"But it is virtually impossible to measure accurately all of the variables and to attempt to establish a subsidy which will make all classes and qualities of U.S. wheat competitive in world markets from all U.S. coastal export positions," said Mr. Pulvermacher.

As a highlight of the meeting, millers gave special recognition to a couple of its veterans who are retiring. They are J. S. Davis, vice president and sales manager of Fisher Flouring Mills Co., Seattle, and Ralph P. Ball, general sales manager of flour for General Mills' Sperry Operations. Mr. Davis has been with Fisher Flouring Mills 50 years. Mr. Ball has been in milling 30 years. «

Robin Hood

FLOUR MILLS LIMITED

"You're sure it's good if it's Robin Hood"

Canadian Spring Wheat Flour

Cake and Pastry Flour

Biscuit Flour

Durum Products

Rolled Oats

Oatmeal

Mills and Sales Offices: Vancouver, Calgary, Moose Jaw, Saskatoon, Winnipeg, Toronto, Humberstone, Montreal, Moncton.
Eastern Export Office: Montreal.
Oriental Export Office: Vancouver.

CANADA

WM. CHARLICK, LTD.
FLOUR MILLERS
Specializing In Exports
ADELAIDE, SOUTH AUSTRALIA
Cables: "Cityflour" Adelaide

EASTERN CANADA FLOUR MILLS
LIMITED
Best Canadian Hard Spring Wheat Flours
"Cartier" "Lasalle" "Eastern Queen"
"Pontiac"
Cables—Eastmills MONTREAL, CANADA

GILLESPIE BROS., Pty., Ltd.
FLOUR MILLERS
SYDNEY, N.S.W., AUSTRALIA
CABLE ADDRESS, "GILLESPIE," SYDNEY

MUNGO SCOTT, Pty., Ltd.
FLOUR MILLERS
Cable Address: "SUPERB" Established 1894
Summer Hill, Sydney, N.S.W., Australia

W. S. KIMPTON & SONS
Flour Millers
MELBOURNE, AUSTRALIA
Cables: "GLUTEN," Melbourne

CANADIAN
WHEAT, OATS & BARLEY
Over 775 Elevators in Manitoba, Saskatchewan and Alberta.
UNITED GRAIN GROWERS, LTD.
WINNIPEG, MANITOBA

CANADIAN COMMENTARY

HIKE IN THE PRICE of Canadian wheat by 5¢ bu., due to the lowered value of the dollar, an offshoot of the recent budget announcement, means importers will have to pay more for wheat and flour.

The Canadians stand to gain at least another $15 million from Red China if the deal to sell grain to that country is carried out to the end.

And the bakers have warned that the price of bread will have to go up by at least 1¢ a loaf, though justification for this move has been hotly contested by Donald Fleming, finance minister in the government. He says 5¢ bu. is equivalent to one eighth or one ninth of a cent on the 24-oz. loaf. The bread industry ought to be able to absorb this increase, he declared.

Industry View

But Arthur May, vigorous president of the National Council of the Baking Industry, thinks otherwise. The price has not changed in most markets for the past four years while other costs, particularly labor, have skyrocketed. He concedes that the flour price rise was not enough in itself to warrant a 1¢ increase, but since the price can only change on a cent basis, that will have to be the figure. "And total increased costs probably do more than justify an increase in the near future," he explained.

Leading Canadian bakers were talking about the need for a price increase long before Mr. Fleming brought down his budget. They considered, and their opinion was well publicized in the newspapers, that there was a need for a price rise of at least 2¢ a loaf.

The price of bread in Canada now ranges from 18¢ to 24¢ per 24-oz. loaf. Flour is up around 25¢ sack.

'Farmers Not Using Research Findings'

Speaking at Banff, Alta., Dr. S. C. Barry, deputy minister of agriculture, told Canadian Seed Growers Assn. annual meeting that yearly expenditure of the federal government on agricultural research is close to $30 million. He suggested a pause in the agricultural production research program because "farmers are not using fully" the findings of research. "The technological revolution taking place in agriculture," he said, "has given rise to a new type of businessman farmer, one who must be able to manage the production and financial aspects of farm operation.

"Policy of the department of agriculture for years had been that of increasing production and in the fields of regulation and control," Dr. Barry stated. However, there has been an increasing trend in the last few years toward establishing policies which were of economic and social assistance, he concluded.

United Grain Growers Names New Officers

United Grain Growers, Ltd., has made some changes in its officers, brought on by the resignation of J. E. Brownlee, Q.C., because of illness.

OGILVIE CANADA'S LEADING MILLERS

OGILVIE has provided milling leadership in Canada for more than a century and half.

Today, from its plants and offices all across Canada, Ogilvie produces and sells an astonishing variety of products.

MANUFACTURERS OF: *Ogilvie* All Purpose, Whole Wheat, Graham Flours—*Ogilvie* Cake Mixes, Hot Roll Mix, Pie Crust Mix—*Ogilvie* Instant & Quick Cooking Oats, Scotch Oatmeal, Wheat Hearts, Rolled Wheat, Vita-B Cereal, Cracked Wheat—*Ogilvie* Tonic Wheat Germ, Corn Meal, All Purpose Health Bran—*Ogilvie* Pot and Pearl Barley.

THE OGILVIE FLOUR MILLS CO. LIMITED
Mills at: Montreal • Fort William • Winnipeg • Medicine Hat • Edmonton *Cable Address:* OGILVIE MONTREAL—all codes used

A. M. Runciman, Abernethy, Sask., becomes president. Louis Driscoll, former controller, moves into the position of general manager, and R. C. Brown, Winnipeg, is chairman of the board and president of Public Press, Ltd., a company subsidiary. Mr. Brownlee was president and gen-

Louis Driscoll

J. E. Brownlee

eral manager and at the end of his tenure chairman of the board. J. I. Stevens, Morinville, Alta., was named first vice president J. Harvey Lane, Filmore, Sask., continues as second vice president.

Mr. Runciman has farmed in Saskatchewan since 1930 and has been a director of the company since 1955.

P. C. Watt, assistant general manager, will retire before the close of 1961. He has given 52 years service to the company.

Mr. Driscoll is a graduate of the University of Manitoba and a chartered accountant. Until 1947 he was associated with Price, Waterhouse & Co. He then became assistant treasurer of UGG, was subsequently appointed treasurer, and a year ago became controller.

Wheat, Flour Export Movement Climbing

Canada is heading for wheat and flour export movement this year of 365 million bushels, and some trade officials believe figure will be higher. Comparative total for 1959-60 was slightly under 272,200,000 bu. In May this year, combined wheat and flour export movement was just short of 46 million bushels, largest monthly movement since June, 1956, when more than 47 million bushels moved into export channels.

Appearing before House of Commons' standing committee on agriculture and colonization, W. C. McNamara, wheat board chief and chief commissioner of Board of Grain Commissioners, believed wheat and flour exports for crop year would top 340 million bushels. Preliminary figures to end of June put cumulative movement to within 20 million bushels of that mark. If exports during July average more than 9 million bushels weekly, as in past two months, then the 365-million-bushel goal is distinct possibility.

An export total of any figure exceeding 356 million bushels for current crop year will make movement the third largest in Canada's history. Record of 407,600,000 bu. in 1928-29 still stands.

Those guessing the current crop year export total at 365 million bushels include in it some 37 million bushels in form of flour. More than 25% of the flour is moving to U.K. Fair quantities continue to go to the Philippines, Lebanon, Ghana, Norway, Jamaica, Trinidad and U.S.

In first 10 months of current crop year (August-May) 66 million bushels wheat cleared to U.K., while 46,185,000 bu. went to Japan and 27 million bushels to Germany. More than 17,600,000 bu. were unloaded at mainland China ports; while 14,600,000 cleared to Italy; 11,900,000 to Czechoslovakia; 10,500,000 to Belgium-Luxembourg; 8,200,000 to France; 6,300,000 to Netherlands; 5,600,000 to USSR; and 5,300,000 bu. to Switzerland. Malta, India, Pakistan, Ireland, Norway, Israel, Ecuador,

McCabe Grain Company Limited

WINNIPEG-VANCOUVER

LONDON, ENGLAND

Schwartz & Co.,(Grain) Ltd.
Victoria Products and Grain
(overseas agents) Ltd.

GREAT STAR FLOUR MILLS, Ltd.

Canadian Spring and Winter Wheat Flour

"SILVERKING" "GREAT STAR" "CORONET" "SILVER STAR"

CABLE ADDRESS: GREAT STAR ST. MARY'S, ONTARIO, CAN.

MLM

MAPLE LEAF MILLS LIMITED

TORONTO, ONTARIO

SALES OFFICES *Montreal, Que.* *Winnipeg, Man.* *Vancouver, B.C.*

EXPORTERS OF CANADA'S FINEST QUALITY FLOURS AND OTHER GRAIN PRODUCTS, ALSO VEGETABLE OILS AND MEALS.

ELEVATORS, MILLS & PLANTS LOCATED—

Quebec City • Montreal • Prescott • Toronto • Port Colborne • Goderich • Baden
Chatham • Sarnia • St. Boniface • Medicine Hat • Calgary • New Westminster

BREY & SHARPLESS
FLOUR
The Bourse PHILADELPHIA, PA.

J. H. BLAKE
FLOUR
Representing Highest Class Mills and Buyers
26 Broadway Room 948
NEW YORK 4, N. Y.

FLOUR
Broker and Merchandiser
DAVID COLEMAN, Incorporated
Members N. Y. Produce Exchange
Rm. 520—120 Bdwy., NEW YORK 5, N. Y.
New England Office: 211 Bryant St., Malden, Mass.

HEADQUARTERS FOR
SNOWBELL RICE FLOUR
ONE BAG OR A CARLOAD
GILBERT JACKSON CO., INC.
Board of Trade Bldg. • Kansas City, Mo.

FRANCIS M. FRANCO
FLOUR
60 East 42nd St. New York 17, N.Y.
LAckawanna 4-3795

Peru, U.S. and Venezuela each took quantities ranging from 1 million to 3.2 million bushels.

Wheat Board Makes Final Payment

Canadian Wheat Board has said finis to its wheat account for 1959-60 crop year. Board started issuing final payment checks to producers June 26 when $45,297,016.72 was divided among western farmers who delivered 377,444,166 bu. in the 12-month period, an average of slightly more than 12¢ bu. The final payment brings growers of No. 1 Northern a return of $1.58.809 bu. basis in store Fort William/Port Arthur or Vancouver. «

Obituaries

ARTHUR E. WEBER, vice president of Anheuser-Busch, Inc., until retirement about a year ago, July 2, in St. Louis, following a heart attack. Mr. Weber was associated with the company 35 years and headed the yeast and corn products division. He was in charge of the bakery products department many years.

JOHN J. WOLCOTT, JR., vice president of Wolcott & Lincoln, Inc., Kansas City grain firm, July 3, of a heart attack. Mr. Wolcott was associated with the firm throughout his business career. The company was founded by his father and the late W. B. Lincoln. He became a member of the Kansas City Board of Trade in 1933, served it in many capacities as a committee member and director, was president in 1953 and 1954. «

CLASSIFIED DEPARTMENT

Advertisements in this department are 20¢ per word; minimum charge, $3.00. (Count six words for signature.) Add 25¢ per insertion for forwarding of replies if keyed to office of publication. Situations Wanted advertisements will be accepted for 15¢ per word, $2.25 minimum. Add 25¢ per insertion for keyed replies. Display Want Ads $20 per inch per insertion. All Want Ads cash with order.

◆ ◆ ◆

HELP WANTED

DURUM MILLER WANTED—MUST BE ABLE TO take charge of durum unit. Good opportunity for man now employed whose progress is stymied—or for retired durum mill superintendent on consulting basis. Write, giving full details of experience, personal data and salary requirements to Ad No. 7026, THE Northwestern MILLER, Minneapolis 40, Minn.

LEADING MILL ENGINEERING FIRM NEEDS representative for the western states for the sale of its complete line of flour mill equipment. Requirements: Milling technology and mill engineering. Sales experience is not mandatory. Send photo and resume, all applications confidential. Address Ad No. 7000, THE Northwestern MILLER, Minneapolis 40, Minn.

SITUATIONS WANTED

HEAD MILLER LOOKS FOR GOOD OPPORTUNITY to make use of know-how and experience in hard, soft and durum milling. Familiar with any type of modern mill equipment and methods. Capable of working with people. Details upon request. Address Ad No. 7004, THE Northwestern MILLER, Minneapolis 40, Minn.

MACHINERY WANTED

WANT TO BUY ONE SMALL PACKER FOR 2 lb. or 5 lb. flour. Can be Stokes & Smith or Triangle or Ferguson or S. Howes. Contact Kirk Milling Co., Findlay, Ohio.

JOHN E. KOERNER & CO., INC.
DOMESTIC EXPORT
FLOUR-FEED
P. O. Box 646
740 Magnolia St.
NEW ORLEANS 7, LA., U. S.A.

WILLIAM PENN FLOUR CO.
FOREIGN FLOUR DOMESTIC
1116 Barclay Building
One Belmont Avenue
BALA CYNWYD, PA.

The Montgomery Company
R. H. MONTGOMERY
FLOUR BROKERS
BALTIMORE 1-3362
21 W. 10TH ST. KANSAS CITY, MO.

QUALITY UNIFORMLY MAINTAINED SINCE 1887
Lake of the Woods Milling Co. Limited
Cable Address
"HASTINGS"
Montreal
ALL
CABLE CODES
USED
Makers of CANADIAN HARD SPRING WHEAT *Flour*
Mills at
Montreal, Keewatin, Winnipeg, Medicine Hat
HEAD OFFICE: MONTREAL WESTERN OFFICE: WINNIPEG

MARKET QUOTATIONS AT A GLANCE

FLOUR

July 5 Quotations, Based on Carlots, Prompt Delivery

	Kansas City Hard Winter	Minneapolis Spring	Buffalo Spring	Chicago	New York	Seattle
Bakery short patent	$...@5.30	$5.70@5.80	$6.48@6.53	$...@ ...	$...@ ...	$...@ ...
Bakery standard patent	...@5.20	5.60@5.70	6.38@6.43	...@ ...	...@ ...	...@ ...
First clear	3.85@3.90	4.90@5.10	5.35@5.48	...@ ...	...@ ...	...@ ...
High gluten	...@5.55	5.95@6.05	6.73@6.78	...@ ...	...@ ...	...@ ...
*Family	6.15@6.80	...@6.80	...@ ...	...@ ...	...@ ...	...@8.30
*Bakers fancy cake	...@ ...	...@ ...	...@ ...	...@ ...	...@7.75	...@ ...
**Straight grade cracker flour	...@ ...	...@ ...	...@ ...	...@ ...	...@ ...	...@ ...
*Pastry	...@ ...	...@ ...	...@ ...	...@ ...	...@ ...	...@ ...
Rye, white	...@ ...	4.34@4.44	...@ ...	4.62@4.72	...@ ...	...@ ...
Rye, medium	...@ ...	4.14@4.24	...@ ...	4.42@4.52	...@ ...	...@ ...
Rye, dark	...@ ...	3.59@3.69	...@ ...	3.87@3.97	...@ ...	...@ ...
Semolina	...@ ...	...@7.00	...@ ...	...@ ...	...@ ...	...@ ...

	Toronto	Winnipeg
*Spring top patent	$6.55@6.60	$6.50@6.70
**Bakers	5.25@5.40	5.00@5.20

MILLFEED

July 5 Quotations, Based on Carlots, Prompt Delivery

	Minneapolis		Kansas City		Chicago		Seattle	
	Sacked	Bulk	Sacked	Bulk	Sacked	Bulk	Sacked	Bulk
Bran	$33.00@33.50	$28.00@28.50	$32.50@33.00	$25.50@26.00	$34.50@35.00	$26.00@26.50	$...@	$...@ ....
Std. midds.	35.00@35.50	28.00@28.50	....@	26.50@27.00	39.00@39.50	31.00@31.50	....@	....@ ....
Red dog	41.00@42.00	....@	....@	....@	45.00@45.50	....@	....@	46.00@50.00
Shorts	....@	....@	38.00@38.50	29.00@29.50	....@	....@	....@	....@ ....
Millrun	....@	....@	....@	....@	....@	....@	....@43.00	....@39.00

	Bran	Shorts	Middlings
Toronto	$45.00@46.00	$47.00@48.00	$54.00@55.00
Winnipeg	32.00@33.00	34.00@35.00	40.00@41.00

*Flour prices 100 lb. cottons.
**Flour prices 100 lb. papers.

Strategically located TO SERVE YOUR *FLOUR* NEEDS!

For over 74 years, Eckhart-milled flours have been the standard of quality with bakers who want the very best, always. Fast service and competitive prices. All flours are individually milled for superior performance.

- **spring and hard winter wheat flours**
- **whole wheat flours**
- **soft wheat flours for cakes, cookies, crackers**
- **rye flours**

Let us quote on your flour needs!

Eckhart
Milling Company
1300 CARROLL AVE. · CHICAGO 7, ILL.

SALES OFFICES
IN PRINCIPAL CITIES

INDEX of ADVERTISERS

The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liabilities for errors or omissions.

Abilene Flour Mills Co. 43
Acme-Evans Co., Inc. 51
Air-O-Flex .....
Allis-Chalmers Mfg. Co. .....
Amber Milling Division 38
American Bakers Assn. 23
American Cyanamid Co. .....
American Flours Co. 4
American Molasses (Nulomoline Div.) .....
Anheuser-Busch, Inc. .....
Appraisal Service Co., Inc... 42
Association of Mill & Elevator Mutual Insurance Companies
Atkinson Milling Co. 19

Baker Perkins, Inc. .....
Bartlett & Co. .....
Baxter, A. E., Engineering Co.
Bay State Milling Co. 63
Bemis Bro. Bag Co. 3
Blake, J. H. 60
Blodgett, Frank H., Inc. 40
Brey & Sharpless 60
Brolite Co. 41
Buhler Mills, Inc. 40
Buhler Corporation, The .....
Bulsing & Heslenfeld 53
Burke, E. J., & Co. .....

Cahokia Flour Co. 40
Cargill, Inc. 42
Centennial Mills, Inc. 51
Chambers, John C., Co. .....
Charlick, Wm., Ltd. 58
Chase Bag Co. .....
Chatfield & Woods Sack Co..
Checkerboard Grain Co. ....
Chicago Board of Trade ....
Church & Dwight Co., Inc...
Clupak, Inc. .....
Cohen, Feliz, N. V. 53
Cohen, H. 53
Coleman, David 60
Colorado Milling & Elev. Co.. 37
Commander Larabee Mlg. Co
Consolidated Flour Mills Co.. 51
Continental Grain Co. .....

Dannen Mills, Inc. .....
Day Company .....
Dunwoody Industrial Inst. ... 43

Eastern Canada Flour Mills, Ltd. 58
Eckhart Milling Co. 61
Einfuhrhandel Mannheim 53
Elliott Service Co. .....
Entoleter, Inc., a Subsidiary of American Mfg. Co., Inc. ..
Evans Milling Co., Inc. 40

Fant Milling Co. 52
Farquhar Bros. 53
Ferguson Fumigants, Inc. ....
First Natl. Bank .....
Fisher Flouring Mills Co. ... 45
Flexo Products, Inc. .....
Flour Mills of America ....
Fluidizer Co., The .....
Food Mach. & Chem. Co. ...
Forster Mfg. Co. .....
Fort Garry Milling Co., Ltd...
Franco, Francis M. 60
Frank, Leo, Co. 44
Frontier Chemical Co. .....
Fuller Co. .....

G-F Elevator Co. .....
Garvey Elevators, Inc. .....
General American Transportation Corp. .....
General Mills, Inc. 64
Gillespie Bros., Ltd. 58
Globe Milling Co. 40
Great Star Flour Mills, Ltd... 59
Great Western Mfg. Co. ....
Green's Milling Co. 44
Grippeling & Verkley 53
Gump, B. F. 47

Harris, Upham & Co. .....
Hoffmann-La Roche, Inc. ....
Holland Engraving Co. .....
Hollywood Termite Control Co. .....
Hotel Jefferson 52
Hotel Sherman .....
Hubbard Milling Co. 6
Hunter Milling Co. 15

Imbs, J. F., Milling Co. 45
Industrial Overseas Tech. Corp. .....
International Mlg. Co. 2
Ismert-Hincke Milling Co. ... 29

J-T Elevator Co. .....
Jackson, Gilbert, Co., Inc. .. 60
Jennison, W. J., Co. .....
Justesen, Brodr. 53

Kansas Milling Co. 39
Kelly-Erickson-Jones Co. 35
Kelly, William, Milling Co... 42
Kent, Percy, Bag Co. .....
Kimpton, W. S., & Sons ... 58
King Milling Co. 40
Knappen Milling Co. 44
Koerner, John E., & Co., Inc.. 60

La Grange Mills 42
Lake of the Woods Mlg. Co., Ltd. 60
Lexington Mill & Elevator Co. 40
Lincoln-CGF Grain Co. 27
Luchsinger, Meurs & Co. 53
Lykes Bros. Steamship Co. ..
Lyon & Greenleaf Co., The .. 44

McCabe Grain Co. 59
McConnell & Reid, Ltd. 53
Maple Leaf Mills, Ltd. 59
Mardorf, Peach & Co., Ltd... 53
Marine Trust Co. of West New York .....
Marsh & McLennan, Inc. 45
Meelunie, N. V., Amsterdam.. 53
Mennel Milling Co. 38
Merck & Co., Inc. .....
MIAG Northamerica, Inc. ....
Miller Publishing Co., The ..
Miner-Hillard Milling Co. ....
Monsanto Chem. Co. .....
Montana Flour Mills Co. ....
Montgomery Co., The 60
Moore-Lowry Flour Mills, Inc. 44
Morrison Milling Co. 43
Morten Milling Co. .....

National Yeast Corp. 44
Nebraska Grain Imp. Assn. ..
New Era Milling Co. 13
Norenberg & Belsheim 53
Norris Grain Co. .....
North American Plywood ....
North Dakota Mill & Elevator 31
Norton, Willis, Co. 44
Nor-Vell, Inc. .....
Novadel Flour Service Division Wallace & Tiernan Inc. ....

Ocrim Milling Engineering Works .....
Ogilvie Flour Mills Co., Ltd.. 58
Olin Mathieson Chem. Corp...
Osieck & Co. 53
Owens-Illinois Glass Co. ....

Particle Research Labs. .....
Patchin Appraisals .....
Paul, F. H., & Stein Bros., Inc.
Peavey, F. H., & Co. .....
Penn, William, Flour Co. 60
Pfizer, Chas., & Co., Inc. ...
Pillman & Phillips, Ltd. 53
Pillsbury Co., The 32, 33
Prater Pulverizer Co. .....
Pulverizing Machinery Div. ...

Quaker Oats Co. .....
Quaker Oats Co. of Canada, Ltd. .....

Red Wing Milling Co. 43
Robin Hood Flour Mills, Ltd. 57
Robinson, Thomas, & Son, Ltd.
Rodney Milling Co. 25
Ross Machine & Mill Supply..
Runciman Milling Co. .....
Russell, D. T., & Baird, Ltd... 53
Russell Miller-King Midas Mills 21

St. Louis Flour Mills .....
Savage, W. J., Co. .....
Scott, Mungo, Ltd. 58
Screw Conveyor Corp. .....
Sheridan Flouring Mills, Inc.. 42
Shippers' Car Line Div. ACF Industries .....
Simon-Carter Co. .....
Simonds-Shields-Theis Grain Co. 47
Smico, Inc. .....
Smith, J. Allen, & Co., Inc...
Smith, Sidney, Flour, Feed & Grain, Ltd. 53
Springfield Milling Corp. ....
Standard Brands, Inc. .....
Standard Milling Co. 42
Star of the West Milling Co.. 38
Sterwin Chemicals, Inc. .....
Stolp & Co., Ltd. 53
Stratton-Theis Grain Co. .....
Sturtevant Mill Co. .....
Superior Div. of Daffin Corp

Tennant & Hoyt Co. 51
Thomas, Vaughan, & Co., Ltd. 53
Tidewater Grain Co. .....
Tobler, Ernst & Traber, Inc...
Twin City Machine Co. .....

Udy Analyzer Co. .....
Uhlmann Grain Co. .....
Union Special Machine Co...
United Grain Growers, Ltd. .. 58
Universal Mlg. & Mach. Co...
Urban, George, Milling Co. .. 38

Van Den Bergh, Gebroeders.. 53
Van Dusen Harrington Co. ..
Van Walbeek's Handelmaatschappij N. V... 53
Victor Chemical Works 53
Vis, P. C., & Co. .....

Wall-Rogalsky Mlg. Co. 56
Wallace & Tiernan Inc. .....
Weller, B. I., Co. .....
Westcentral Co-op Grain Co.
Western Canada Flour Mills Co., Ltd. .....
Western Waterproofing Co... 52
West Virginia Pulp & Paper Co. .....
Wichita Flour Mills, Inc. ....
Williams Bros. Co. 44
Williams, H. R., Mill Supply Co. .....
Willis, K. I. .....
Witsenburg, M., Jr., N. V... 53
Wolcott & Lincoln, Inc. 44

GRIST of GRINS

"Listen, Captain," said the perspiring police office, "we've been giving that ventriloquist the third degree for an hour and a half, and a plainclothesman, three cops, and a detective have confessed to the crime. Shall we go on?"

◆ ◆ ◆

One drawback to the ever improving means of transportation is that there is no longer such a thing as a distant relative.

◆ ◆ ◆

A three-year-old boy cried bitterly when a large friendly dog bounded up to him and licked his hand and face.

"What is it?" asked his mother. "Did he bite you?"

"No," came the reply, "but he tasted me."

◆ ◆ ◆

Hotel patron: "May I have some stationery?"

Clerk (haughtily): "Are you a guest of the house?"

Patron: "Heck, no. I'm paying $20 a day."

◆ ◆ ◆

If mother nature could have foreseen bermuda shorts, she surely would have done a better job on the male knee.

◆ ◆ ◆

Keep your nose to the grindstone, your shoulder to the wheel and your eye on the ball. Now try to work in that position.

◆ ◆ ◆

"Which candidate is your wife voting for?"

"The one I vote for!"

"Who are you voting for?"

"My wife hasn't decided yet."

Yes, we are one of the nation's 10 largest flour mills,

BUT...There's a difference between BIGGEST and BEST!

Just as size of the wheat berry has little bearing on quality of the flour produced, total capacity of a milling company does not determine quality of its flour.

Bay State Milling serves bakers of all types and sizes throughout the nation. These bakers have only one common characteristic—their demand for absolute, consistent quality in flour. Our growth (doubled since 1954) resulted from our ability to serve and satisfy the quality minded baker. Future expansion will depend entirely upon sales increases in this specialized milling field.

We at Bay State Milling Company take pride in our products and service. Our size is secondary.

MILLERS OF Quality Flour EXCLUSIVELY FOR BAKERS

BAY STATE MILLING COMPANY

GENERAL OFFICES: Winona, Minnesota

MILLS: Winona, Minnesota; Leavenworth, Kansas

Look who's growing!

You can almost see him shoot up . . . and you can see one of the reasons for his sturdy, healthy growth. He gets the best bread the world has ever known—and that covers a lot of territory.

Because bread has been literally the staff of life for nations, ever since civilization began.

Today's excellent bread . . . smooth-textured, light and vitamin-enriched, is due to the honest efforts and high standards of both bakers and millers.

And General Mills is proud to be one of these.

Good eating will always begin with bread

General Mills